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Presidential Address

ON

MANCHESTER'S EARLY INFLUENCE ON THE ADVANCEMENT OF MEDICINE AND MEDICAL EDUCATION.

Delivered at the Seventieth Annual Meeting of the British Medical Association

BY WALTER WHITEHEAD, F.R.C.S., F.R.S. EDIN.,

PRESIDENT OF THE ASSOCIATION; CONSULTING SURGEON TO THE ROYAL INFIRMARY, MANCHESTER.

[MR. WALTER WHITEHEAD commenced his address by bidding the Association welcome to Manchester. He then referred to the fact that when the Association last visited Manchester, 25 years ago, the medical school had just amalgamated with the Owens College, and "this day, July 29th," said Mr. Whitehead, "is the fifty-sixth anniversary of the death of John Owens." Mr. Whitehead then referred to those now gone from us who had taken an active part in the former Manchester meeting: Esau Wilkinson, the President; Lund and Bradley, two eminent surgeons; Leech, the pharmacologist; Sir William Roberts, the first Professor of Medicine in the Owens College; and Thorburn, the gynæcologist. After a reference to the arrangement of the work of the meeting Mr. Whitehead reminded his audience that Manchester began to increase in size and in wealth in about the middle of the eighteenth century, and that it was at about that date that many of the great Manchester institutions came into being. With reference to the Royal Infirmary he continued:—]

Charles White and the Royal Infirmary.

Of the institutions for the benefit of the people which came into being at this epoch let me speak first of the Royal Infirmary on account, not only of its intrinsic importance—it was at once a general hospital, an isolation hospital for infectious diseases, and a hospital for lunatics—but also because it played, indirectly, a great part in the intellectual activity of this city. Moreover, it is probably the oldest of our public institutions, for it had its first beginning just a century and a half ago, when Charles White, with the financial assistance of Joseph Bancroft, a man "conspicuous for his public and private charities," hired and fitted up a small house in Garden-street, off Shude-hill, now a wilderness of warehouses. It would seem that it only required the stimulus supplied by Charles White's enthusiasm to convince the leading inhabitants of the then small but growing town of the need of a hospital, for within a couple of months of this modest beginning a conference was held and a committee appointed to collect money. Their first step was to purchase from Sir Oswald Mosley, the lord of the manor, the "Daub Hole Field,"[1] a site of a little over an acre, and it is on this field and some adjoining land acquired subsequently that the infirmary still stands. A west wing forming the first part of the infirmary buildings was taken into use in 1755 and provided beds for 40 patients.

Ten years later a wing was added for the reception of patients suffering from mental diseases. At that time only three such institutions existed in the country, the hospitals of Bethlem and St. Luke in London and the institution at Newcastle-on-Tyne. The patients in the lunacy block of the infirmary were placed under the supervision of the physicians to the infirmary and this arrangement continued until 1847, when, partly to provide more beds for the infirmary proper and partly because the building was found to be out of date, the mental cases were removed to the Manchester Royal Lunatic Hospital at Cheadle, now under the able direction of Mr. G. W. Mould, the lecturer on mental diseases in the Owens College. In 1796 another addition was made to the infirmary by the erection of a separate building in the infirmary grounds to receive patients suffering from infectious fevers; this also was officered by the physicians to the infirmary, but as I shall have to refer to it again it will suffice to say that the arrangement continued until 1870, when a special hospital was erected at Monsall. For a time the city authorities defrayed the cost of patients for whom they were responsible, but eventually purchased the hospital, which now provides in detatched blocks, accommodation for 400 patients who are under the charge of the medical officer of health and his colleagues. As a consequence of these and other changes the accommodation provided by the infirmary proper was steadily increased until it now contains beds for 292 patients, while its capacity is indirectly increased by the convalescent home at Cheadle, which accommodates 136 convalescents and by further provision for the reception of such patients in institutions at Southport and Buxton.

The name of Charles White appears first on the list of surgeons to the infirmary. He was the son of Thomas White who was appointed a surgeon extraordinary, what we should now call a consulting surgeon, at the same time. Charles White was born in 1728 and spent his boyhood in Manchester, in the earliest period of that remarkable outburst of intellectual activity in which he was himself to bear no mean part. He studied medicine in London, where he was the friend and fellow-student of John Hunter, and after his return to his native city he quickly won great distinction as a surgeon and an obstetrician. He was one of the earliest of conservative surgeons, for he removed the head of the humerus for caries in 1768, was the first to excise the shoulder-joint, and proposed excision of the hip in 1769. He was famous also as a lithotomist and his use of dry sponge to arrest hæmorrhage foreshadowed the sponge-grafting suggested not many years ago by Professor Hamilton. As an obstetrician he did much to place the obstetric art on a sound basis, and along with his son and the two Halls (Edward, his colleague at the infirmary, and Richard) he founded the Manchester Lying-in Charity, now St. Mary's Hospital. In 1773 he published a treatise on the management of pregnant and lying-in women which went through many editions and was translated into German; he also wrote a most excellent treatise, likewise translated into German, on phlegmasia alba dolens. He formed, no doubt under the influence of the example of his friend John Hunter, an anatomical museum which, when offered to the infirmary in 1806, contained some 300 specimens. The museum eventually became the property of the Lying-in Hospital but was unfortunately for the most part destroyed in a fire which occurred in 1847. His interests extended beyond purely professional subjects, for he was one of the founders of the Manchester Literary and Philosophical Society and one of its first vice-presidents. He was a friend of De Quincey who in his autobiography gives a personal sketch of the great surgeon of the north. White seemed to have had some inkling of the theory of evolution, for in 1799 he contributed an essay on the Regular Gradation in Man and in Different Animals and Vegetables, and from the former to the latter. In his later days he was much interested in forestry and wrote a book on the subject. He was a great tree-planter at his country house near Sale and died there at the age of 85 years.

From its earliest days the infirmary, which was honoured with the title of Royal in 1830, has rendered great services to Manchester and the surrounding district and to the progress of medical and surgical science. At first, as I have said, it had beds for 40 patients. In 1811 the number of beds had increased to 71 and as 932 patients were admitted in that year each bed was used on the average by 13 patients. In 1848 the number of beds had increased to 192 and the number of patients admitted to 1713, so that there was an average of nine patients to each bed in the course of the year. In 1901 the number of beds was 292 and the number of patients admitted was 4446, an average of over 15 patients to each bed. Thus during the last half century the number of patients benefited has increased much more rapidly than the number of beds. This fact may, I think, be accepted as striking evidence of the advance of medicine and surgery and of the increased efficiency of treatment and administration within the infirmary itself. This conclusion is confirmed by the examination of some statistics which

[1] Dr. F. Renaud believes that the field was so called because from it was obtained the clay for the "wattle and daub" of which most Manchester houses of the sixteenth and seventeenth centuries were constructed. In an oblong excavation made by the removal of the clay water collected and from this infirmary pond, as it came to be called, the thrifty inhabitants drew their water-supply at the time of the foundation of the infirmary and for long afterwards. It was, indeed, not finally emptied until 1840 when the Waterworks Company pumped it dry "at the request of the Commissioners of Police for the public benefit."

have been taken from the records of the infirmary at a considerable cost in time and trouble by my friend, Mr. W. L. Saunder, who has grown grey in his devoted service to the interests of the infirmary, and Mr. Charles Roberts, the present resident surgical officer. Mr. Saunder finds that for the year ending June 24th, 1879 (the earliest for which such data are now available), the average period of occupation of a surgical bed—that is to say, the average period each surgical patient was under treatment—was 24·57 days. In 1901 the average period for which each surgical patient was under treatment had sunk to 18·1 days.

I regret that I have no comparable figures for the medical wards, but that there has been a marked improvement all round as compared with half a century ago is shown by the fact that a rough calculation discloses that whereas in 1848 the average period for which each patient admitted to the infirmary, taking medical and surgical together, was under treatment was 41 days, the average period in 1901 was not quite 24 days. The other statistics have reference to the results of operations. Dr. Renaud tells us that in 1839-40 the number of operations performed was 143 with 36 deaths—that is to say, one operation in four was followed by death. In 1878 the number of recorded operations was 337, but it must be remembered that the number of beds had been increased. Now Mr. Charles Roberts finds that in 1901 the number of operations had increased to 2652.[2] I suspect that some of my medical friends are saying that these figures afford an awful example of the "lust for operation" as to which we have heard recently. But that this is not so and that my surgical colleagues on the active staff were fully justified in what they did is shown by the results, for of the 2652 patients operated on 2544 recovered and only 108 died—that is, only about one operation in 24, or 4·07 per cent., was followed by death. Moreover, an examination of the list of all deaths after operation in 1901, which has been prepared for me by the resident surgical officer, shows that in a large proportion, probably more than half, they were desperate cases, in which the accident was so severe, or the disease so serious or extensive, that operation could afford only the slenderest hope of recovery.[3]

Mr. Crossley's Gift to the Manchester and Salford Hospital for Consumption.

If I may be allowed to include Salford and Ancoats as parts of greater Manchester then I must add a few words as to the two other general hospitals—the Salford Royal Hospital and the Ancoats Hospital. The first had its origin in 1827 and the corner-stone of a portion of the present building was laid in 1830, though it was not until 1845 that 10 beds were provided for in-patients. It was gradually enlarged until it contained 62 beds in 1882, in which year my old friend, the late Mr. John Pendlebury, bequeathed a sum of money which enabled the governors to increase the number of beds to 127. The Ancoats Hospital grew out of a dispensary for out and home patients founded in 1828 in the interests of the working classes then becoming concentrated in the district and with the view of relieving the pressure upon the infirmary. A large part in this movement was taken by the late Sir James Kay-Shuttleworth who had settled in Manchester as a physician in 1827 and early turned his attention to public health questions, though he found time to publish in 1834 a treatise on the physiology, pathology, and treatment of asphyxia which won for him the Fothergillian medal of the Royal Humane Society. The Ardwick and Ancoats Dispensary grew into a general hospital, the first stone of which was laid in 1871. A new pavilion, the gift of Mr. James Jardine, raising the number of beds to 114, was opened in 1888 by the then Prince of Wales, now King Edward VII., whose rapid recovery from a serious illness under the skilful treatment of my friend Sir Frederick Treves may justly be reckoned among the triumphs of modern surgery.

I have already referred incidentally to some of the other hospitals in Manchester, and I should have liked to introduce here some account of the foundation and growth of St. Mary's Hospital, the Eye Hospital, the Children's Hospital, and other institutions which are doing good work, but time warns me to hurry on. I cannot, however, leave this part of the subject without some reference to the munificent gift of my friend, Mr. W. J. Crossley, to the Manchester and Salford Hospital for Consumption and Diseases of the Throat. The hospital was founded mainly through the exertions of the late Dr. J. Shepherd Fletcher, at one time lecturer on anatomy and secretary of the Medical School in Chatham-street, and of Dr. Alexander Hodgkinson, lecturer on diseases of the larynx in Owens College. The admirable investigations of our able medical officer of health, Dr. J. Niven, have shown that in Manchester, as in other cities, the prevention of this "white plague" presents us with a problem calling for strenuous efforts. Thanks to the epoch-making discovery of Koch, we now know that consumption is a preventable disease; subsequent investigations of this master of experimental pathology and of many other skilful workers, among whom I would mention as one of the most original and successful Dr. Sheridan Delépine, Procter professor of pathology in this college, have placed us in possession of facts which show us the nature of the methods by which the scourge may be diminished and perchance in time extinguished. Chief among these is the prevention of the infection of healthy persons. The open-air treatment of consumption takes the sufferer in the early stage of his illness, places him under conditions of life which have been proved to favour his cure, and thus gratifies the generous pity which impels us to help the sufferer and enables us at the same time to fulfil the duty which we owe to the community to prevent others from contracting the disease. In order to place this system of treatment within reach of the poorer citizens of Manchester and Salford Mr. Crossley is building, on a site comprising 66 acres at Birch Hill, in Delamere Forest, 420 feet above sea-level, a sanatorium where 80 sufferers from consumption will find every means for their recovery which experience can devise or generosity provide. The erection and equipment of the sanatorium will cost the donor some £70,000. The best way in which the people of Manchester can show their gratitude to him is to respond freely to the appeal which the Lord Mayor has made for subscriptions to a fund for the endowment of the institution which Mr. Crossley's public-spirited munificence has provided.

Manchester Medical Schools.

In Manchester, as in other communities full of active life, the development of the medical school was not along one smooth continuous path. The work of many men, sometimes along paths apparently divergent, was necessary; but, as in every process of organic evolution, there were times of rapid accretion with succeeding periods of absorption, leaving an organism fit for steady and sturdy growth. Amidst all the struggles and rivalries, which extended over nearly half a century, there was evolved a school of which Manchester may well be proud and the true value of which to the community will rise as the union between the college on the one hand and the infirmary on the other becomes more intimate. So far as medical education is concerned these two institutions must be regarded as one, with common interests and joint duties towards the community in and for which they work; for of the science and art of medicine it may truly be said that it is nothing if not practical and that in all his active work the practitioner of the art must be guided by a kind of sublimated common-sense.

We owe, I believe, the first beginnings of a medical school in Manchester to Charles White, the founder of the infirmary, for in 1786, assisted by his son, he began a course of lectures on anatomy and physiology, while Thomas Henry gave a course of lectures on chemistry concurrently. Henry, who had become a visiting apothecary to the infirmary in 1778, was one of the founders of the chemical industry in this district. The son of an Antrim man who had settled as a schoolmaster at Wrexham, he first practised as an apothecary at Knutsford. After a few years he removed to Manchester, where he continued his medical practice; but he had already become deeply interested in practical chemistry and in 1771 communicated to the Royal College of Physicians of London an improved method of making magnesia alba. Acting on the advice of his friends he began the manufacture of this substance, whence he got the name of "Magnesia Henry," and this business was

[2] Of these 1774 were performed by the honorary staff and 878 by the resident staff. The latter number includes cases from the out-patient department and the accident room.

[3] The operations followed by death may be roughly classified as follows: for cancer, 20; for sarcoma, 6; trephining, 10 (for fracture of the skull, 7; for complications of otitis media, 3); tracheotomy, 10; laparotomy, 19 (for gastric ulcer, 6; for intestinal obstruction or stricture, 8; for ruptured spleen, 1; for perforated appendix, 1; gastrotomy for œsophageal stricture, 1; cholecystotomy, 1; peritonitis, 1); herniotomy for strangulation or obstruction, 8; for radical cure of hernia, 4; drainage of appendicular abscess, 2; for urethral stricture, 3; for compound fracture of long bones, 4; miscellaneous, 22.

most successful. He was one of the founders of the short-lived College of Arts and Science and lectured there not only on theoretical chemistry but also on such technical subjects as bleaching, dyeing, and calico-printing. He was an authority especially on dyeing and also wrote on ferments and on the value of lime and marl as manures. He was a friend of Priestley and translated the physical and chemical essays of Lavoisier, with whom and with other foreign investigators he had been brought into correspondence by his experiments on fixed air (he observed that carbonic acid gas, so far from being injurious, was actually beneficial to plants). He wrote a memoir of Haller, whose career is sketched in the very recent work entitled, "Some of the Apostles of Physiology," in which my friend Professor Stirling has given an account of the lives and labours of those who have contributed to the advancement of the healing art as well as to the prevention of disease. Henry was one of the founders and the first secretary of the Literary and Philosophical Society. Later he became its President and held that office at the time of his death in 1816. His son, who was physician to the infirmary, was a friend of Davy and Wolaston and a chemist of considerable eminence. He was the author of the earliest text-book of experimental chemistry and more than a century ago lectured on the application of chemistry to arts and manufactures. When coal gas was introduced as an illuminant he was among the first to study its constitution, to lay down rules for analysis, and to indicate the means by which it might be purified. I may here digress to observe that Mr. John Leigh, the first medical officer of health of Manchester, before his appointment to that office in 1868, had given much attention to the subject of the analysis of illuminating gas, and as early as 1842 communicated to the British Association, which met that year in Manchester, an account of the mode of preparation of nitro-benzole, a discovery turned to good account by those who more fortunately shortly afterwards founded the aniline dye industry.

I do not know whether the lectures given at the infirmary by the Whites and Henry were largely attended. I suspect not, for regular pupils were admitted to the practice of the infirmary for the first time in 1793. Lectures, indeed, do not seem to have been given systematically, though in 1796 Mr. Benjamin Gibson commenced a course, illustrated by demonstrations of the specimens collected by Charles White, then preserved in a museum at the corner of King-street and Cross-street, the site of the present Reference Library. Gibson gave special attention to diseases of the eye and wrote on the Formation of an Artificial Pupil, on the Extraction of Soft Cataracts, and on the Use of the Couching Needle in Infants of a Few Months Old,[4] an operation in which he appears to have been very expert. It makes us realise the benefits which anæsthetics have conferred on mankind to be told[5] that "when Mr. Gibson operated upon the eyes of young children they were really put into a sac that had an eyelet with a cord through it which was fastened round the child's neck and by this means the youngsters were much more easily controlled by the assistants."

John Jordan's School of Anatomy.

Dr. Ferriar, Dr. Roget, Mr. Ainsworth, and Mr. Ransome, the father of Dr. Arthur Ransome, whose early work in Manchester in connexion with the prevention of tuberculosis is happily continued with increasing effect to the present day, also took part in the courses given at the infirmary, but we must, I think, assign to Mr. Jordan the honour of being the real father of the Manchester Medical School. He was born in 1787 and commenced the systematic teaching of practical anatomy in Manchester. He was assisted by Dr. Hull, physician to the Lying-in Hospital and a botanist of distinction, and by Mr. Brigham. It was the day of small things and Jordan and his colleagues began their school with four students. The course was practical from the first. As this was in the days before the Anatomy Act the acquisition of subjects for dissection must sometimes have been a difficulty. But whatever his difficulties Jordan overcame them and in 1817 his certificates of instruction in anatomy were recognised by the Society of Apothecaries of London. Jordan was an enthusiastic anatomist and it is related of him that a medical friend who called upon him once when he was ill espied a set of bones under the bed which Jordan said he found it convenient to keep at hand that he might distract himself by their study. Where Jordan's pupils first dissected I am not certain, but the earliest references I have traced place the school in Back Queen-street, off Deansgate, nor am I aware whether courses in other subjects of a medical education were given there.

[4] THE LANCET, vol. xi., 1826-7, p. 215.
[5] Ibid., p. 247.

Thomas Turner and the Royal Manchester School of Medicine and Surgery.

Manchester, however, was not to wait long for a complete medical school; its foundation was due to the energy of Mr. Thomas Turner, a remarkable man who during his life of 82 years accomplished a great work for medical education. He was born at Truro in Cornwall in 1793, was apprenticed in Bristol, was a pupil of Sir Astley Cooper at the old borough hospitals of Guy's and St. Thomas's, and came to Manchester in 1817 as house surgeon to the infirmary. He afterwards settled in private practice in Manchester and in 1822 gave a course of lectures on human anatomy, physiology, and pathology before the Manchester Literary and Philosophical Society. Encouraged by the interest shown in these lectures he put forth two years later a scheme for a school of medicine and surgery. It was started in a house in Pine-street and John Dalton, one of the most illustrious names in the intellectual history of Manchester, gave the lectures on pharmaceutical chemistry. The enterprise was immediately successful and in the following year the staff was thoroughly organised, lectures on medicine being given by Dr., afterwards Sir, James Bardsley, on surgery by Mr. Ransome, on midwifery by Mr. Kinder Wood, and on botany by Mr. Thomson. Dalton continued the lectures on pharmaceutical chemistry, while Turner took anatomy, physiology, and pathology. Clinical experience could be gained in the infirmary, with its dependent lunatic asylum and fever hospital, at the Lying-in Charity, the Eye Hospital, and the Lock Hospital. Turner was justly proud of the ample opportunities for dissection which he was able to offer to his pupils and boasted that in this respect the Manchester school was superior to those of London and Edinburgh. The school was recognised in 1825 as a fully-equipped medical school by the Royal College of Surgeons of Edinburgh, and I am, therefore, able to claim for it the honour of being the oldest, as it is still, I believe, the largest, of the great provincial medical schools of England. It was recognised in 1827 by the medical departments of the army and navy. The Council of the Royal College of Surgeons of England, which was then controlled by surgeons connected with certain metropolitan hospitals, proved more obdurate. In 1828, however, a slight concession was made as a consequence of the report of a committee of the House of Commons on the teaching of anatomy before which Turner gave evidence. The certificate of instruction in anatomy of the Pine-street School was then recognised. As a result of an inquiry held by another committee of the House of Commons in 1834 on Medical Education the exclusive policy of the Council of the Royal College of Surgeons of England with respect to the reception of certificates of instruction required from candidates for its examinations was at last abandoned, and the Pine-street School was placed on the same footing in respect to the clinical teaching of its students as the great schools in London, Dublin, Edinburgh, Glasgow, and Aberdeen. The relations between the Manchester Memorial School and the Royal College of Surgeons of England have long been of a cordial kind; Mr. Turner and Mr. Lund were long members of its Council. My friend, Mr. Hardie, has only just retired from that office, and the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England has recently arranged that in future the first professional examination shall be held simultaneously in London and at the Owens College, as the centre most convenient for students of the medical schools in the northern counties of England.

The Manchester Medical School possessed as early as 1834 a chemical laboratory, a dissecting room, a library, and museums of anatomy, pathology, and materia medica. The keystone to the structure of medical education which Turner and his friends were building up had been placed in 1833, when regular courses of clinical lectures were commenced at the infirmary. The first course was given by Dr. Carbutt who lectured once a week from the beginning of June to the end of December, and it has been preserved in a volume which in its form did great credit to the taste of the Manchester printers of that date.[6] The substance shows Carbutt

[6] Clinical Lectures in the Manchester Royal Infirmary, by Edward Carbutt, M.D. Manchester. 1834.

to have been a shrewd, well-read, and thoughtful physician and a man of an independent turn of mind. The motto on his title page is the Horatian line—

"Nullius addictus jurare in verba magistri."

He shows himself a strong partisan of the theory that very many diseases—from chorea to diabetes—are due to what is now called autotoxæmia and to be cured by forms of depleting treatment, which to us in the present day seem to be "methods of barbarism." Nevertheless, his patients appear to have recovered in fair proportion and with reasonable speed, and I have no doubt that the students learned much of practical value from his teaching, for he very wisely made no selection of cases but spoke on each one as it came under observation, so that he had many opportunities of dealing with the more common diseases.

Other Medical Schools in Manchester.

The Pine-street School was not the only one established in Manchester about this time. I have already mentioned the School of Anatomy started by Mr. Jordan; this was expanded in 1827 into a School of Medicine in Mount-street, by the institution of courses of lectures on chemistry by Mr. Davies, on medicine and materia medica by Dr. Freckleton, on surgery by Mr. Fawdington and Mr. Boutflower, and on midwifery by Mr. Radford; while Mr. Jordan, who lectured on anatomy, was assisted by Mr. Blundstone and Dr. Pritchard Hulme, who gave demonstrations in that subject. In 1834 Mr. Jordan retired and most of the lecturers joined a new school founded in that year in Marsden-street. It only lasted six years, for it was closed in 1840, and its library was presented to the Royal Manchester School of Medicine in Pine-street. This school remained without a rival until 1850, when some of the lecturers at the Marsden-street School joined with Mr. Southam, Mr. Dumville, and Dr. Watts in founding a school in Chatham-street. Mr. George Southam was the moving spirit; he was the secretary of the school and lectured on surgery. He was surgeon to the Royal Infirmary and possessed an abundance of sound common-sense and surgical acumen. He was an active member of this Association and was President of the Council from 1871 to 1873. When the medical department of Owens College came into existence in 1872 he was appointed the first lecturer on surgery and in the following year professor. He died in 1876, but his son, who is now senior surgeon to the infirmary, worthily follows in his father's footsteps. The school in Chatham-street was only continued for eight years, when it was absorbed by the Royal Manchester School, which had steadily been growing in importance and had already entered into the negotiations which led eventually to its transformation into the medical faculty of the Owens College. The success of the school founded by Thomas Turner had indeed been signal, and Jordan paid a generous tribute to the importance of the achievement, all the more striking when it is remembered that it was altered by a rival. "The establishment of provincial medical schools," he wrote, "was of national importance and was one of the movements of the age. Indeed, there has not been so great a movement since the College of Surgeons was established." Turner, who founded the school in 1824, became surgeon to the Royal Infirmary in 1830, lived to see the amalgamation with the Owens College and give the inaugural address at the first session of the medical faculty. He died in 1873 and his connexion with the College is commemorated by the Turner scholarship in medicine and surgery. Jordan died in the same year at the age of 87 years.

Early Schemes for a University College in Manchester.

It may fairly be claimed for the medical school, which during the latter years of its independent existence bore the honourable title of the Royal Manchester School of Medicine and Surgery, that it had a large share in bringing about the foundation of a university college in Manchester, for in 1836 Mr. Thomas Turner and his colleagues put forth a plan for a college, with faculties of arts and medicine, to be connected with the University of London, which had then recently undergone one of its periodical reorganisations. In the same year an alternative plan for a university for Manchester, first proposed in 1789, was revived by a paper read by Mr. Harry Longueville Jones before the Manchester Statistical Society. This paper was printed as a pamphlet at his own expense by Mr. James Heywood, F.R.S., who declared in an address to the Manchester Athenæum that a university college was not only wanted but actually called for in Manchester. For various reasons, into which I need not now inquire, neither scheme was at that time successful; yet these discussions of the educational needs of Manchester, though they ended apparently only in the disappointment of the hopes of the public-spirited men who took part in them, were yet destined at no distant date to bear fruit. The idea of founding a college for Manchester free from the restrictions then imposed by the Test Acts at Oxford and Cambridge grew in the mind of John Owens, and, fostered by the enthusiasm of George Faulkner, his partner in business, led to the foundation of the Owens College and eventually to the creation of the Victoria University.

The Owens College.

The schemes of Turner and his friends and rivals, which eventually became embodied through the benefaction of John Owens, were not indeed the earliest for the establishment of a college for higher education in Manchester. More than two and a half centuries ago Manchester, in 1641, presented a petition to the Long Parliament asking for a charter for an independent university, but the opposition of York, which urged that it had better claims to be the seat of a northern university, brought the scheme to naught. A College of Arts and Sciences was founded in 1783 and in 1786 came the Manchester Academy which, after a career marked by many vicissitudes, now finds a home in Oxford as Manchester College. Its short life in Manchester was perhaps memorable chiefly because it was the means of bringing to our city John Dalton who, in 1793, left his native Kendal to become its professor of mathematics and natural philosophy. In Manchester he ever after resided, resisting some tempting offers to establish himself elsewhere. Of the epoch-making work which he did there, especially his researches into the laws which govern the physics of gases, this is not the time or the place to enter, but I may recall to you that his essay on colour-blindness, a defect from which both he and his brother suffered, was communicated to the Literary and Philosophical Society of Manchester in 1794. It was the first detailed description of that curious condition which still bears his name, though the term Daltonism is more often met with in foreign than in British publications—one more example of how true it is that in Great Britain, as in Judæa, a prophet is not without honour save in his own country.

Dalton, as I have already said, was one of the first lecturers at the School of Medicine in Pine-street, and in truth his wide interest in all scientific inquiries and speculations brought him often into contact with questions having a bearing on medicine. As an example may be mentioned his researches in meteorology. They also were communicated to the Literary and Philosophical Society and were among the earliest in which accurate methods of investigation were brought to bear on that perplexing science. Again, one of his earliest studies, while yet he lived in the Lake District, which he ever loved, was botany, and he used to form collections of dried plants, from the sale of which he gained money to help his own education in other directions. It is said, indeed, that he first became aware of the defect in his appreciation of colours by discovering that he was unable to distinguish flowers by their colours as others could. He was a member of the Society of Friends and a man of simple life and somewhat austere character. It is related of him that when, late in life, he was persuaded to be presented at Court, he only consented to don a doctor's gown because he could not perceive its brilliant hue. His many-sided scientific interests are commemorated in the Owens College by scholarships or prizes in mathematics, chemistry, and natural history, and the Society of Friends has given his name to the hall of residence, open to all denominations, which they established in 1876 for the benefit of students of the Owens College. His most illustrious pupil was James Prescott Joule, who carried out in Manchester all those remarkable researches on the conservation of energy and on the mechanical equivalent of heat which belong to the very groundwork of modern science and have profoundly affected our conceptions of the order of the universe. He never, as far as I can ascertain, held any office in the Owens College, yet it might have been expected that so illustrious a man of science would have been commemorated in the science faculty of the College of the city in which he lived and worked, but I know of no scholarship or prize bearing his name. The total amount of John Owens's benefaction was under a hundred thousand pounds, a small sum for the achievement of so great an object as the founder had in view. The success which has attended the foundation has been due in large measure to the wise conception which the founder

had formed of what a university college should be. He conceived of it rather as a body of men, teachers and taught, than as a building of bricks and mortar, and directed that the endowment should be devoted to the provision of an adequate teaching staff. In a hired house, then, to which a chemical laboratory under the direction of Edward Frankland had been added, the Owens College opened its doors in March, 1851. At first its success by no means fulfilled the expectations of its friends, but the conception was right and, slowly for a time but with ever-increasing rapidity during the last 40 years, it has drawn to itself not only many students in all faculties, not only munificent gifts and bequests from Manchester men, but also other organisations working in Manchester in the interests of higher education. Thus in 1872 the fine collections formed by the Manchester Natural History Society and the Manchester Geological Society were transferred to the College and formed the nucleus of the Manchester Museum now displayed in the buildings which form the northern part of the main front of the College. The museum has from the first been conducted on broad lines and contains valuable collections illustrating the sciences of zoology and botany, ethnology and anthropology, mineralogy and geology. In 1872, also, when the Royal Manchester School of Medicine was incorporated with the Owens College, the Manchester Medical Society brought to it its library of 13,000 volumes, which has since grown to 32,000 volumes:

> "There physic fills the space, and far around
> Pile above pile her learned works abound:
> Glorious their aim——"

The collection, I believe, deserves all that the poet wrote in praise of a medical library and little of what he said in criticism of medical books, although we may to-day, perhaps, still find a parallel here and there to the practitioner thus described a century ago:—

> "One to the gout contracts all human pain.
> He views it raging in the frantic brain;
> Finds it in fevers all his efforts mar,
> And sees it lurking in the cold catarrh."

What the library owes, in respect to the value and number of its volumes, to the indefatigable exertions of Mr. Thomas Windsor has never been fully appreciated save by a few of his most intimate friends who know that in the zenith of his career as a most successful oculist he abandoned altogether his practice and devoted his life to the collection and study of rare medical and scientific books. The general collection of books belonging to the College numbers over 70,000 volumes and is contained in the fine Christie Library building on the south side of the quadrangle presented by Mr. Richard Copley Christie, for 15 years a professor in the College. The foundation of John Owens, broad in its conception, though small in its beginnings, has grown with the growth of Manchester and with the increased love of knowledge and learning until it is now one of the greatest educational institutions in the country. It has erected a fine pile of buildings containing halls and lecture rooms, libraries and laboratories, where instruction may be obtained in every department of knowledge, and, more than that, where opportunities are afforded to those who show aptitude for original inquiry to search out fresh secrets from Nature and to apply the new knowledge thus gained for the benefit and elevation of mankind. For 30 years the medical students of Manchester have had the advantages of receiving in its lecture rooms, but still more in its laboratories, the training in those ancillary sciences which they must study before they can enter with profit upon their special technical education, and also in those fundamental departments of the body of medical knowledge so happily termed in the Scottish universities the institutes of medicine. Within its walls, by the kindness of the College council, rooms have been provided for all the 17 sections, while the general meetings are held in this beautiful Whitworth Hall, which commemorates the name of one of the most munificent benefactors of the College. The medical faculty has steadily grown in number and importance since it first formed part of the Owens College. In 1872–73, when the amalgamation took place, the medical students constituted 28·45 of all those studying within the College. In 1883–84 the proportion rose (excluding the women's department) to 40·8 per cent., and in the last two years to over 42 per cent.[*]

[*] These figures have been calculated from the table given at page 22 of the handsome quarto volume issued in 1900 under the editorship of Mr. P. J. Hartog, B.Sc., assistant lecturer and demonstrator in chemistry, entitled "The Owens College, Manchester (founded 1851): a Brief History of the College and Description of its Various Departments" (Manchester: J. E. Cornish). The following extracted from this table and with the percentages added may perhaps be read with interest; the figures for 1900–01 have been added from the last report of the College.

Number of Students at the Owens College.

Session.	Arts, Science, and Law Departments.		Medical Department.	Total.	Percentage of medical to total.	Percentage of medical to total, excluding women's department.
	Men.	Women.				
1872–73	337	—	134	471	28·45	28·45
1883–84	400	60*	276	736	37·50	40·80
1892–93	507	93	345	945	36·50	40·50
1899–1900	507	126	369	1002	36·80	42·10
1900–1	565	181	415	1152	36·00	42·74

* First year of Women's Department.

It was, I think, the added strength brought to Owens College by the great medical department acquired by this amalgamation which emboldened the Senate to seek university powers. In 1875 a draft scheme for the enlargement of the College into a university was published by Professor Greenwood, Sir Henry Roscoe, Professor A. W. Ward, and Professor J. E. Morgan. Mr. Joseph Thompson, in his history of the Owens College, has declared that "it is to the zeal and untiring devotion of these four gentlemen that Manchester owes its university; others cordially supported the movement, but they, through five weary years, placed their case before the public, removed prejudices, advanced good arguments, and lived down opposition." Professor Morgan argued the case from the medical side; he showed that of the 14,000 practitioners in England in 1874 only 28 per cent. were graduates of medicine, and that of this 28 per cent. 20 per cent. had obtained their degrees in Scotland. He pointed out that while there were 11 medical schools in London and eight in the provinces, only four universities—Oxford, Cambridge, Durham, and London—had the right of conferring degrees in medicine, and adduced weighty reasons in favour of founding a new university in the North of England. He pointed out that such a university should be situated in a populous town connected with a large hospital with a suitable medical school possessing well-appointed laboratories and an efficient staff of professors and lecturers, and that finally it must give guarantees that teaching rather than the sale of degrees would be its great object; these conditions, he urged, Owens College and Manchester could supply. In 1877 a deputation which had the support of the late Sir Henry Acland, regius professor of medicine in the University of Oxford, asked the then President of the Privy Council, the Duke of Richmond and Gordon, to confer on Owens College the rank of a university with the title of the University of Manchester. The proposal was at first opposed by the authorities of the Yorkshire College, Leeds, but eventually the differences were adjusted and on June 30th, 1879, it was announced that the Crown had been advised to grant a charter to a northern university to be called the Victoria University. Owing, however, to opposition from medical authorities and teachers in other places the charter eventually granted on April 20th, 1880, creating the Victoria University and constituting the Owens College a college therein contained a clause which held back the right to confer degrees in medicine. Two years later the Royal Commission on the Working of the Medical Acts recommended that the power to grant its own medical degrees should be given to the Victoria University without delay and in 1883 a supplementary charter removed the restrictions. It was thus due entirely to the efforts of the Senate, Council, and Court of Owens College that a northern university with its seat in Manchester was created. For several years Owens College was the sole constituent college of the University, so that here again Manchester has been the pioneer of provincial medical education. It was the first to found a complete medical school and it was the first great commercial city in England to secure, in spite of much opposition and discouragement, the establishment of a great university in its midst. What the future has in store it would be rash to conjecture, but it would seem that the plan of a federal university has served its turn and that higher education in Manchester has reached

a stage when a local university has become not only a necessity but a legitimate claim. The change would afford an opportunity for bringing into active coöperation the Owens College and the Royal Infirmary on the one hand and the School of Art, the College of Music, and the Municipal School of Technology, in which you, my Lord Mayor, have taken so much interest, on the other.

Thomas Percival.

I must now turn back for a moment to speak of a Manchester physician of the eighteenth century who did a great work in his day and generation. The name of Thomas Percival, who was for a short time, soon after its foundation, physician to the infirmary, is probably little known to the present generation, but he was a man who exercised a wide influence in his day and his name deserves to be held in grateful remembrance and reverence for the services which he rendered not only to the profession which he adorned but also to the city of his adoption. Percival "was a Warrington worthy" and a physician remarkable not only for his scientific attainments and benevolent character but also for the breadth of view and width of culture which made him a pioneer in many movements, the effects of which were felt not only in the Manchester district but throughout the whole country. The Manchester Literary and Philosophical Society grew out of weekly meetings for conversation held at his house, and his chief co-workers in its formal establishment in 1781 were the Rev. Dr. Barnes, subsequently Professor of Divinity in the Manchester Academy, and Thomas Henry, to whom I have already referred. Dr. Percival was its first President, an office which he shared with Mr. James Massey, one of the founders of the Royal Infirmary, during the lifetime of the latter, and occupied afterwards alone. He took an active share in its work, both literary and philosophic, and in several of his scientific papers insisted on the importance of the application of the experimental method to medical inquiries.

Dr. Percival also took a leading part in a movement which foreshadowed the establishment of technical schools, for he was one of the founders of the College of Arts and Sciences, at which courses of lectures were given on (1) Mathematics and Natural Philosophy, (2) Fine Arts, (3) Chemistry with reference to arts and manufactures, and (4) the "Origin, History, and Progress of Arts, Manufactures, and Commerce, the commercial laws and regulations of different countries, commutative justice, and other branches of Commercial Ethics." The scheme was not then successful. It came too soon and the country had to wait until towards the end of the nineteenth century for technical schools and until the twentieth for schools and faculties of commerce and economics. Percival rendered a very important service to the medical profession and indirectly to the public by his book on "Medical Ethics." The public—if I may judge from remarks which one sometimes hears in conversation and from paragraphs now and then published in the newspapers—look upon medical etiquette as a very mysterious code of rules designed for the benefit of the medical profession and a source of inconvenience to the public. Nothing can be further from the truth. Hippocrates, the father of medicine, in his Aphorisms, laid down rules for the guidance of the physician in his conduct to his patients; and the relations of practitioners of medicine, surgery, and midwifery to their clients are so intimate, the issues so momentous, involving often all that a man or woman holds most dear—health and life and honour—that it was the duty of the profession to consider very carefully the conduct to be pursued under various circumstances, which in the sundry and manifold changes and chances of this mortal life repeat themselves with a uniformity which would be surprising did we not remember the essential identity of human fate and human emotion in all ages. Percival's book on "Medical Ethics"[8] had its origin in a set of rules for the guidance of the staff of the infirmary, and in their preparation he had the assistance of Dr. Ferriar and Mr. Simmons. To these rules Percival afterwards added a series of chapters defining the course which should be pursued by practitioners in private practice towards each other and towards their patients. All are designed to ensure that the welfare, the sentiments, and even the prejudices of the patient should be considered and that no misunderstanding between his medical attendants should prevent them from doing all that medical art permitted for his benefit or from conveying to him or to his friends their considered opinion on his state. Percival had to devote a large space to the conduct which a surgeon should observe when summoned to give his attendance at a duel, but with this exception the book may be read with advantage at the present day and might, indeed, be reprinted with a few additions and omissions as a guide for the present generation. His labours to increase the welfare of the people made him a pioneer of sanitary reform and one of the earliest advocates of factory legislation. As early as 1775 he communicated to the Royal Society (of which he had been elected a Fellow even before he had taken his degree) a scheme for establishing accurate "bills of mortality," contending that proper registers of population and mortality could alone afford convincing evidence of the effect on health of different occupations and modes of life. He illustrated his subject by comparative statistics, showing the influence of overcrowded towns and unventilated workrooms on health. Twenty years later he was a moving spirit in forming the Manchester Board of Health, which sought to prevent disease by inculcating cleanliness, by providing a fever hospital called the "House of Recovery" in connexion with the Royal Infirmary, and by purifying the houses from which the sick had been removed. The memorandum which he presented to this board affords striking evidence of his knowledge, foresight, and breadth of view. He advocated improved housing of the working classes, the establishment of public baths, the isolation, proper treatment, and nursing of persons suffering from infectious diseases, and the cleansing of their clothes and homes; the inspection of mills and factories to ascertain the state of health of the workpeople and their hours of labour; the regulation of noxious trades; systematic cleansing of the streets; and the superintendence of markets where food was sold. Angus Smith said truly many years afterwards that "Manchester was then the great centre of sanitary knowledge and Percival the true apostle."

John Ferriar.

In his endeavours to improve the sanitary state of the working-classes Percival had an able and eloquent helper in Dr. John Ferriar. Ferriar,[9] like so many others who have won distinction in after-life, "was a son of the manse," studied in Edinburgh, where he graduated M.D. in 1781, and settled in Manchester in 1785. He was a man of considerable literary attainments and learning. His "Illustrations of Sterne"[10] traced out—too minutely as some of his admirers thought—the debt which that wayward genius owed to the old French novelists and to Burton's "Anatomy of Melancholy." He wrote an essay on the dramatic works of Massinger,[11] which gained him much reputation; he was himself a poet, among his productions being a didactic poem entitled the "Puppet Show," and a tragedy. Soon after joining the Literary and Philosophical Society in 1786 he read to it a paper on Modern Demonology, afterwards expanded into "An Essay towards a Theory of Apparitions,"[12] a slim volume which I would commend to the attention of the Psychical Research Society, for in it he established, to his own satisfaction at least, that a ghost should be regarded "as a symptom of bodily distemper and of little more consequence than the headach (*sic*) and shivering attending a common catarrh." He published also a series of "Medical Histories and Reflections"[13] which show him to have been a careful and accurate student of disease, the best example of his method being perhaps his "Essay on the Medical Properties of the Digitalis Purpurea or Foxglove," in which he shows far more caution and good judgment than the advocates of a new drug usually display. It is, however, on his enlightened views as to public health matters that I would rest his claims to remembrance at the present day; and in endeavouring to form a proper estimate of the independence and originality needed to form such opinions at the end of the eighteenth century we must remember that cotton factories and the aggregation of large numbers of workers and their families in towns were then new things and that the infectious

[8] The edition I have used is that published in Manchester in 1803, but the work was republished as late as 1849.

[9] The spelling of the name does not appear at that time to have been settled. In the dedication of his essay on Digitalis to Major-General Ferrier he spells the name of this gentleman with an "o," while his own appears on the title-page with an "a."

[10] Illustrations of Sterne, with other Essays and Verses. Manchester, 1798; second edition, Warrington, 1812.

[11] Reprinted by Gifford in his edition of Massinger's works, 1805. London, 1813.

[12] The first volume was published in 1792, the second in 1795, and the third in 1798. A second edition, with additions and omissions, was published in London and Warrington in 1810, and a fourth volume in 1813. The whole was also reprinted in Philadelphia in 1816.

doctrine of fevers was far from then holding the assured position which the researches of Pasteur were to give to it in the succeeding century. Ferriar was elected in 1789 a physician to the infirmary to visit home patients, and in the winter of that and the succeeding year an "epidemic fever prevailed much in Manchester and Salford." It is not quite clear from his description what this fever was, probably it was typhus, but among the questions which interested Ferriar with regard to it was that of the nature of the conditions prevailing among the poorer classes which he considered should be held responsible for its occurrence. These were the overcrowding, especially at night, of dirty, unventilated, "mean lodging-houses," often built in blind alleys, the use of cellars for dwellings, the imperfect ventilation of the cotton-mills, and carelessness in the sale and distribution of old clothes which had been used by the sick. As preventive measures he advocated the ventilation of rooms, the prevention of overcrowding, the licensing and inspection of lodging-houses, and the establishment of fever-wards to "receive patients from infected houses, or from close cellars, or pent-up rooms, where the want of air and the proper attendance leaves little chance of escape to the sufferer."

[Mr. Whitehead here referred to Manchester sanitation, paying a well-deserved tribute to the Manchester and Salford Sanitary Association, and after mentioning the Thirlmere water-supply continued as follows:—]

Conclusion.

From a very early date in the history of the British Medical Association the medical profession in and around Manchester has taken a deep interest in its welfare and development. At the first anniversary meeting in 1832 Dr. Charles Henry of Manchester, a grandson of Thomas Henry, surnamed "Magnesia," was one of the committee instructed to report on the chemistry of animal fluids as illustrative of pathology; Mr. Thomas Turner was a member of a committee on anatomy, while Dr., afterwards Sir, James Bardsley was appointed corresponding secretary for France.

The British Medical Association was founded in 1831, and in 1835 the fourth anniversary meeting was held in Manchester under the presidency of Dr. Edward Holme, F.R.S., who had long held the office of physician to the Royal Infirmary. This meeting, the first held in Manchester, was memorable in the history of the Association as that at which the system of Branch organisation took origin by the amalgamation with the parent association of the Eastern Provincial Medical and Surgical Association, which became the East Anglian Branch. Later in the same year other branches were formed at Wells, Bath, and Southampton and in the following year the Lancashire and Cheshire Branch came into existence at Newton-le-Willows. Manchester thus saw the first great extension of the local organisation of the British Medical Association and this year it sees another great step towards the perfecting of that organisation. Burke called representation "the cure for all evils in the colonies." May it have a similar influence in our Association. The serious business of securing the right kind of representation will be the only difficulty you will have to contend with. I trust that the results will be to make the Association stronger, larger, and more influential than ever. The Association held its annual meeting again in Manchester in 1854, when Mr. William Wilson, surgeon to the Royal Infirmary, and well known for his important contributions to obstetrics and gynæcology, presided. The membership had grown to over 2000 and an important proposal, making a further stage in the development of the Association, was made. This was that the title should be changed from the Provincial Medical and Surgical Association, which it had hitherto borne, to that of the British Medical and Surgical Association. This change of name betokened an extension of the Association's work to embrace all British practitioners of medicine. Finally, after a good deal of discussion, the familiar title of the British Medical Association was chosen and formally adopted in 1856. Under that name it has grown and flourished and it will, I hope and believe, continue to flourish, serving as a connecting link between the members of our scattered profession—scattered in their student days in many schools, obtaining their diplomas and degrees from many universities and corporations, and ultimately practising in every district of the United Kingdom and every region of a united empire.

It now only remains for me to thank you for the attention with which you have been good enough to listen to me. Much of what I have said was, perhaps, known to many residents in the district. My object has been to act the part of a chamberlain who, in the old royal courts, was the introducer of ambassadors; for you, gentlemen, who have honoured us by visiting Manchester, coming, as you do, from foreign countries, from the many distant parts of the British empire, and from every district of the United Kingdom, are the ambassadors of the profession of medicine. May your labours during the next few days help to draw closer the bonds which unite the various departments of our art, which in every clime has but one aim—the prevention or the alleviation of human suffering.

In conclusion, let me quote to you the words which, though written three centuries ago, yet express so aptly the sentiments which should animate a congress such as this. The noble words of the great Lord Bacon, in his preface to the "Elements of the Common Laws of England," might, I think, be taken as the motto of our Association: "I hold every man," he says, "a debtor to his profession; from the which as men, of course, do seek to receive countenance and profit, so ought they of duty to endeavour themselves, by way of amends, to be a help and ornament thereunto. This is performed, in some degree, by the honest and liberal practice of a profession; when men shall carry a respect not to descend into any course that is corrupt and unworthy thereof, and preserve themselves free from the abuses wherewith the same profession is noted to be infected; but much more is this performed if a man be able to visit and strengthen the roots and foundation of the science itself, thereby not only gracing it in reputation and dignity, but also amplifying it in profession and substance."

Address in Medicine:

THE STUDY OF THE NATURAL HISTORY OF DISEASE THE BASIS OF ALL ADVANCE IN ITS TREATMENT.

Delivered at the Annual Meeting of the British Medical Association at Manchester, July–August, 1902,

BY SIR THOMAS BARLOW, BART., K.C.V.O., M.D., F.R.C.P. LOND.,

PHYSICIAN TO HIS MAJESTY'S HOUSEHOLD; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—Twenty-five years ago the British Medical Association met in this city and the Address in Medicine was given by one who fitly represented the Manchester School and whose name is illustrious amongst the leaders of our profession in the Victorian epoch. William Roberts had many remarkable gifts, but the combination in his mental equipment of infinite painstaking in homely detail and of philosophical insight and foresight gave alike to his public utterances and to his conversation a suggestiveness and charm which can never be forgotten. The address which he gave within these walls was a notable example of this. It was a masterly discourse on the acute specific diseases in their relation to contagium vivum which subsequent research has left intact and which in many ways was prophetic as to future developments. *Nihil quod tetigit non ornavit.* The recollection of his discourse gives humbling reflections to one who has to take up the parable where Roberts left it. In the address which you have asked me to give it would be impossible even to enumerate all the advances which medicine has made during the quarter of a century which has elapsed since we last met in this hospitable city.

EMPIRICISM AND SCIENCE IN THERAPEUTICS.

We live in worrying times and we have often to possess our souls in patience. There are those who still maintain that medicine has no claim to the title of an exact science, and yet some of the most estimable of our fellow-citizens do all that lies in their power to hinder the employment of one of the methods which contribute towards making medicine an exact science. On the other hand, in view of the striking development of some of the modern applications

of the physical forces, there are not wanting those who sneer at us as bigots and obscurantists when we hesitate to write a blank cheque for the reckless employment of those modern applications in diseases of which our knowledge is very limited.

But let us reflect how strange and varied has been the progress of practical medicine, by which I mean all that body of knowledge concerned with the cure and the prevention of disease. The history of the earliest efforts in the relief of pain is wrapped in mystery. Perhaps they were not unlike the sports or spontaneous variations which are claimed by the Darwinian hypothesis as the first steps in the development of species, those variations which were useful to the organism being perpetuated by a survival of the fittest. But at all events—and let us frankly admit it—the basis of our practice is empiricism, and the basis of all our practical life is empiricism. But there is good empiricism and bad. The good empiricism continually strives to follow Nature's lead and shed that which is foolish and useless while preserving that which is essential. And good empiricism, by carefully recording cases, noting the results of changes made first by chance and then by design, may at length assimilate to a truly inductive process, even though there are many unknown quantities. But as Nature herself seems sometimes to fail, and leaves behind vestiges and survivals in our bodily conformation which may give rise to trouble, so we also in our treatment sometimes preserve methods of long past utility which may now and again be harmful. How much we owe to the good sceptics—or, in other words, the independent observers—of whom Sydenham was one; and of whom, in our generation, there was no finer example than Sir William Gull. These are the men who have taught us to look disease straight in the face with our own eyes and to realise what is its natural cycle, and ask ourselves within what limits we can reasonably hope to modify it. And as a warning against becoming self-centred and self-opinionated let us never forget Bacon's wise aphorism: "For as they were men of the best composition in the State of Rome which either, being Consuls, inclined to the people, or being Tribunes, inclined to the Senate; so, in the matter we now handle, they be the best physicians which, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning." It is in the period of half knowledge that the practice of medicine has often cut a sorry figure. For theoretical lines of treatment, based on incomplete physiological and chemical data, have often produced melancholy failures. But the outcome of the new experimental pathology of the last quarter of a century, controlled by clinical observation, applied and tested by clinical experience, has justified us in claiming that at length our work has ceased to be fairly described as groping in the dark and that in some definite instances medicine has justified for itself the designation of an exact science.

In drawing attention to some recent notable advances in the healing art I will ask your consideration and support for this thesis: the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease. I do not say that good treatment owes its origin entirely to pathology—far from that; it has often ante-dated pathology—but in proportion as pathology has become complete it has rationalised good treatment and refined it, separating, so to speak, the ephemeral from the permanent, the accidental from the essential, as well as the harmful from the beneficent. Moreover, in these last days in not a few instances the true pathology has laid down new therapeutic lines which have been justified by experience.

BACTERIOLOGY AND TREATMENT OF DIPHTHERIA.

Let me choose as my first illustration one of that group of acute specific diseases to which in his discourse Sir William Roberts gave his chief attention. I will ask you, as practical men, whether there is any disease within your knowledge in which bacteriological investigation has made so profound a change in our attitude as to the malady and its treatment as it has in diphtheria? Recall, I pray you, the chaotic and bewildering state of doctrine on this disease only a dozen years ago. There were the endless, and not altogether academic, disputes as to the difference between croup and diphtheria; as to whether there was a true membranous croup which was different from laryngeal diphtheria; and as to the diagnostic differential signs of diphtheria which appeared to elude the most careful anatomical definition. Malignant diphtheria of the throat was easy to diagnose, but as to the nomenclature of mild cases simulating follicular tonsillitis and of the throat exudations complicating scarlet fever an experienced man was the last person to dogmatise. It was only at length by studying cases in epidemic groups and especially by noting the paralytic sequelæ that we learned how widely we had to cast our net in order to include examples in which there had been no visible membrane at all though there might in some of them have been exudation in the post-nasal region and, for a time, thin irritating discharge from the nostrils. And how exceedingly diverse were our opinions as to its etiology. We were never prepared to deny that exposure to cold was a cause and after cold came drains. Drain-poisoning, serious as it is in lowering vital resistance and preparing a suitable soil, has been often made to bear more than its fair share in the immediate causation of specific disease, and diphtheria was a notable case in point. Sir William Jenner, whose enlightened doubts were nearly as valuable as his absolute statements, would never admit that the direct relationship of diphtheria and drain emanations was proved. But the confident assurance of many people on this doubtful point was often exceedingly mischievous, for though it led to sanitary investigations and helped sometimes to bring about sanitary improvements it also led to the quiet ignoring of other possible sources of the disease. There was a time, not many years ago, when cases of membranous croup were treated in children's hospitals in ordinary wards, and there were those who stoutly maintained that these cases were not contagious. The further study of epidemics led to the conclusive proof that in some cases the disease was disseminated by milk. Then came the observation that epidemics were often followed by sporadic cases, or preceded for a time by mild and ambiguous sore throats. Country villages and isolated homes gave their quota as well as crowded streets. By degrees, even in apparently sporadic cases, we came to attribute more and more importance to insidious personal contagion, and to see that the disease was maintained and transmitted by the moving to and fro of slight cases, especially in schools and places where children were closely aggregated. Increase of the disease seemed to correspond with the period when compulsory school attendance was enforced, and there grew up a strong presumption in favour of the tenacity of infective material associated with bedding and clothing.

And if there were wide differences of opinion as to the signs and causation of the disease, how varied were the different lines of treatment! One recalls the routine administration of antimonials and emetics in laryngeal cases which held sway so long, probably on account of the confusion in diagnosis. The cases that were benefited were those of simple laryngeal and tracheal catarrh with spasm, but the true membranous cases were almost certainly made worse. It was but slowly that the consensus of opinion grew in favour of quinine and iron and other tonic methods. The local applications were multiform, and who does not remember the pitiful struggles of many a tender child at the swabbings which were fruitlessly and repeatedly applied? Many of the stronger local applications were actually mischievous. The continuous steam-kettle and the tent and the irritating and headache-producing antiseptic inhalations come back to us and make us realise how often we lowered the constitutional vigour of the patient while we vainly attacked the local disease. The fear of cold air in the treatment of laryngeal affections was also maintained in respect to faucial diphtheria and a room temperature over 70° F. day and night, moist like a tropical hot-house, was so constant that it required some hardihood to break through these cast-iron conventions. When the bacillus of diphtheria had been isolated by Klebs and the inoculation of it in animals had been demonstrated by Löffler to produce diphtheritic lesions the first step had been taken in unravelling the skein. Let us consider how these discoveries, followed by those of Klein, Roux, Sidney Martin, and others, illustrated and explained the puzzling clinical facts. First, the polymorphism of the bacillus is very suggestive. The long and short varieties, it has been shown, may occur as pure cultures or side by side, or in successive cultures apparently one form may be replaced by the other. Though these varieties cannot as yet be correlated to different types of membrane, yet their discovery prepares us for considerable variation in gross naked-eye characters. Secondly, the variation in virulence of the bacilli going

down to an actual vanishing point with little morphological alteration has its transcript in clinical experience. When in an ordinary case of faucial diphtheria the nose becomes affected and a thin ichorous discharge appears at the nostrils the gravity of the case is always increased. On the other hand, there are cases of children attacked with thin fibrinous exudation obstructing the nostrils in which the Klebs-Löffler bacillus has been identified and yet there is little constitutional disturbance and apparently very slight infectivity. There is a form of chronic diphtheritic ophthalmia with thick exudation which presents many similar features. Thirdly, the detection of the diphtheria bacillus in the secretions of the throat in cases at first clinically indistinguishable from follicular tonsillitis gives the clue to the puzzling cases which the study of epidemic groups had brought home to us—namely, that paralytic sequelæ can occur when most careful observation has failed to identify any antecedent visible membrane. The persistence, sometimes for months, of the bacillus in the fauces of those who have passed through an attack of diphtheria when all membrane has long since disappeared gives us the clue to the occasional prolonged infectiousness of those who have had this disease, and seems to enforce the need of special arrangements for diphtheria convalescents. It is the experience of those interested in day-school epidemics that a slight nasal discharge associated with imperfect resolution of the lymphatic glands are the clinical danger signals to be looked for and which suggest the bacteriological investigation for continued sources of dissemination.

The detection of the diphtheria bacillus without exudation in the fauces of medical men and nurses attending cases of this disease is one of those valuable and suggestive facts which emphasise the importance of keeping the mouth and throat clean and of maintaining the vital resistance of the attendants by good food, regular sleep, and plenty of fresh air. In the old days how often the risks of the diphtheria nurse contracting the disease have been increased by the close, stuffy sick room, the long uninterrupted hours of attendance, and the inadequate meals. Moreover, the tenacity of the bacillus and the fact that cultures can be made from membrane that has been in contact with a textile fabric even after some months, accentuates the importance of destroying as much as possible in the way of contaminated clothes and of not being content with perfunctory disinfection. But we are further indebted to the bacteriologists for solving some of our clinical difficulties by demonstrating that not all false membranes are diphtherial. The streptococci, for example, seem capable of giving rise to pseudo-membranous deposit. The exudation occasionally present in early scarlatinal throats, which are extremely red and swollen, is not generally true diphtheria, and this harmonises with what is found clinically, that the exudation seldom spreads, and that paralysis does not supervene. On the other hand, the secondary membranous exudations which sometimes supervene in measles and in the late stage of typhoid fever appear often to be due to true diphtheria bacilli. But further investigation seems to be required as to the virulence of, and the dissemination from, the secondary cases. Thus far as to the bacilli. But the skein becomes still further unravelled by the discoveries of Roux, Yersin, and Sidney Martin on the toxin of diphtheria. The first two observers separated the toxin from the bacilli and produced by inoculation many of the symptoms of the disease but *minus* the formation of false membrane.

Whether, as Sidney Martin maintains, the bacilli at the local site of the disease elaborate a ferment-like body, which, subsequently affecting the tissues, digests them, and the products of this digestion constitute the toxins, or whether, as others hold, the bacilli themselves elaborate the toxins, is not material. The solid gain to knowledge is that for the most part the mischief is elaborated locally at the site of the diphtheritic membrane, and not to any great extent by multiplication of the bacilli themselves in the blood and other tissues. And this leads us to see the justification of the researches of Behring and his fellow workers which eventuated in the practical application of the methods of immunisation and the preparation of an antitoxin. It is beyond my purpose and outside my province to go into the complicated questions of the preparation and standardisation of diphtheria antitoxin. But surely it is right in this meeting of practitioners who have to deal with disease to insist on the revolution which this treatment has made. The statistics are striking enough, for they show a reduction of mortality between one-third and one-half. But statistics are not the only test upon which a medical man bases his practice. The manifest alteration after the use of antitoxin, even in a most unfavourable and ultimately fatal case, is convincing enough to an informed person that we have here a fundamental remedy of enormous potency. When, within 48 hours, we see a young subject with malignant diphtheria accompanied by secondary infections which are on the verge of setting up septicæmia so far relieved after the use of the remedy that the glands are reduced in size, the cellular tumefaction of the neck is lessened, the membranous exudation is arrested and begins to separate at the edges, the tongue is more moist, and the general state ameliorated, we know that something has been done to control the disease processes with which no previous treatment with which we were acquainted was in the least degree comparable. Furthermore, in cases in which tracheotomy has to be performed not only are the mortality statistics improved but we see for ourselves that the membrane formation ceases to spread and the tube, which has formidable disadvantages of its own, can be withdrawn much sooner and the risks of ulceration and stenosis can be thereby lessened. Moreover, those of us who were doubtful about the expediency of intubation in this disease on account of the difficulty of providing for the evacuation of the membrane below the tube are now only too glad to admit of its applicability because of the gradual melting away of the membrane.

Since the introduction of the antitoxin the urgency of local applications to the fauces has become lessened to a marked extent. We are told that antitoxin only neutralises the toxin but does not destroy the bacilli themselves. A weak mercurial solution which attacks the bacilli, though it coagulates the albumin, and an alkaline solution which favours the solution of the membrane, seem to be all that are needed. By too much zeal in local applications we interfere with the protective action of the phagocytes and the old corrosive applications are entirely ruled out. With continued experience the limitations of antitoxin are becoming more and more clearly understood. A careful man seeks the assistance of the bacteriologist in every doubtful case but does not wait for his report, for he knows that the certainty of success depends on the remedy being introduced early, say within the first three days, and that the risks of its employment are insignificant. The existence of secondary infections makes him far more anxious and he feels compelled to warn the friends on that account, but it does not prevent his applying the diphtheria antitoxin even in very grave cases. Experience does not seem to support the concurrent use of anti-streptococcic serum. As to the rashes, the pyrexia, and the joint pains which appear up to the second week after the injection, they seldom give rise to anxiety when we are prepared for them and recognise their nature, nor do they require special treatment. We know now that they really depend on the serum *per se* and not on the special antitoxin. As might be expected, there are occasionally inflammatory incidents from imperfect aseptic precautions in the injections and such incidents ought not to occur, but let us remember that there are also like risks which occasionally arise with hypodermic injection of morphine and other remedies, and these we accept.

Some of the earlier objections as to the effects of antitoxin seem to have been made by those who were inadequately familiar with the symptoms of diphtheria itself. Everybody knows that albuminuria is common in diphtheria and that suppression of urine is not rare, and there is no reason to believe that antitoxin has any effect at all in producing them. May I here, in speaking of suppression of urine, by way of parenthesis refer to a practical point in nursing—namely, the extreme difficulty in inducing nurses to give abundant plain water to patients suffering from diphtheria and other febrile illnesses generally, and also to the importance of aiding renal secretion and quenching thirst when there is distressing vomiting by giving weak saline rectal injections? As to the incidence of diphtherial paralysis in cases treated by antitoxin, it seems reasonable to suppose that many of those who develop paralysis after antitoxin would otherwise have died before there was any chance for the paralysis to become manifest. Goodall has shown, however, that there are no more fatal cases of paralysis in those treated by antitoxin than in those not so treated. It seems probable from Martin's researches that the diphtheria toxin begins to affect the nervous system very much earlier than would be supposed from the obvious clinical manifestations, and possibly, when

once initiated, the neuritic changes go on in spite of antitoxin, just as in some other forms of peripheral neuritis they persist and go through their own evolution after the removal of the cause. Of the prophylactic value of the diphtheria antitoxin for those in a family or institution where there is a case of diphtheria we can only say that there seems now a large body of experience in support of its efficacy, although the period of immunity conferred does not exceed three weeks.

TETANUS.

While the diphtheria antitoxin treatment is in every way the most satisfactory of all the serum methods, the other members of this group of therapeutic measures are full of suggestion, and it is worth while briefly to consider a few of them. Thus, with regard to the tetanus antitoxin, although the experiments on immunisation of animals have not furnished us with a successful method of dealing with the severe and acute cases of human tetanus, yet some benefit has been gained in the chronic forms. It is interesting to observe that the tenacity of the combination between the toxin and the nervous tissues which was shadowed forth in diphtheria is in tetanus the dominant factor. It would appear to be the tissues of the central nervous system for which the toxin has a special affinity, and the later investigations point to the necessity of subdural injections into the cerebral substance itself, as well as into the cellular tissue, and to the employment of far larger doses of the antitoxin than the first immunisation experiments suggested.

OTHER EXAMPLES OF SPECIFIC REMEDIES.

In the other examples of this kind of treatment we have to depend on very incomplete data. For example, in rabies we are still ignorant as to the micro-organism which, we are none the less convinced, is the cause of the disease. But the knowledge that the poison is lodged in the cerebro-spinal tissues has led, in the hands of Pasteur and his pupils, to the most fruitful results. The working hypothesis that in the dried spinal cord of an animal that has died from rabies the micro-organisms are destroyed, but that the immunising substances remain active, seems to have been justified by experiments based upon it and by its applications. There surely can be no doubt of the prophylactic value of Pasteur's methods so far as those who have been bitten by rabid animals are concerned, although no beneficial effects follow their employment in the developed disease. But when a complete analysis of the life-history of the organism has been attained we may fairly look for still greater results in the therapeutics of this disease. Is it unreasonable to suggest the same thing with respect to the great triumph of English protective medicine—namely, vaccination? One of the best results of the recent Royal Commission was that it gave the *coup de grâce* to the easy optimism of those of us who considered that there was finality in what had been already accomplished and that nothing more was needed than to continue on the old lines. But the most recent methods of preparation with the carefully regulated glycerination and the getting rid of so much of the secondary infection, for which we are indebted to Copeman, mark an enormous advance in the practical application of vaccination. Who can doubt that there are still further triumphs in store for us when the organism has been discovered and its natural history has been completely worked out? Of plague, cholera, and typhoid fever I will not speak, for the inoculation methods are still *sub judice*. With respect to the employment of anti-streptococcic serum we are met by the most various testimony. Some cases of erysipelas and puerperal fever and some of those most desperate cases of acute septic mischief, following on infections from necropsies, have been strikingly benefited by the use of injections of this serum. Some cases of infective endocarditis appear to have improved, but a great many others have shown no response whatever. It would appear that although streptococcus is the organism common to many forms of septicæmia, and although morphologically no differences can be established according to the lesion from which it is derived, yet that there must be many different strains, and that the serum of an animal that has been immunised from one strain will not necessarily prove beneficial to an animal subject of another strain. Meanwhile it would seem that in any case of formidable septicæmia, when there is substantial reason to doubt whether the patient can cope with it successfully, we are not justified in withholding the use of anti-streptococcic serum, which should be recently prepared. This is pre-eminently one of the subjects in which we may look for notable advances from fuller knowledge of the natural history of these organisms.

THE TREATMENT OF TUBERCULOSIS IN THE LIGHT OF MODERN DISCOVERIES.

Koch's great discovery of the tubercle bacillus in 1882 has been so far-reaching and comprehensive that the simplification which it has brought about in our knowledge and in the mode of grouping of a great body of facts seems almost incredible. The most important outcome was that it confirmed the doctrine that tubercle should be placed amongst the chronic infections and so helped us to realise, in some sense, the kind of enemy with which we had to deal. With respect to the tuberculin treatment of tuberculosis it cannot be denied that the results obtained have been on the whole unsatisfactory and tentative. And when we consider that under the most favourable circumstances both forms of tuberculin can only claim to set up fresh activity in the neighbourhood of pre-existing tuberculous lesions, with which fresh activity the reaction temperature is associated, it is clear that the result must be, to say the least, problematical. With localised subacute and indolent lesions such as we get in lupus we might fairly expect that such increased activity might sometimes be followed by improvement and that has unquestionably been observed also in some cases of tuberculosis of joints. But with respect to visceral lesions there is always some risk of dissemination following this renewal of activity and of the setting up new inflammatory action and necrosis instead of fibrosis in the lesions themselves.

The importance of the tuberculin injection as a test for the tuberculous lesions in cattle seems to be very great indeed, but the justifiability of the employment of this test in the human subject for the determination of a doubtful lesion is, I think, open to question, although it has been extensively employed without proof of harmful effect. The most important pathological fact bearing on the therapeutics of tubercle is the enormous frequency of unsuspected tubercle as proved by investigation after death of persons dying from other causes than tubercle. Thus, necropsies on people dying from surgical injury and every form of acute and chronic disease show in a great many cases one or more old tuberculous lesions. And the younger the subject the more frequently are tuberculous lesions found. Thus, from the careful synopses published by several skilled pathologists, it would appear that about one-third of the children under two years of age who die from all causes in the children's hospitals show tuberculous lesions. The first reflection that forces itself upon us is the enormous frequency of unsuspected tuberculous illnesses that occur in the population around us; the second and equally important reflection is that there exists a tendency in the human subject to spontaneous limitation and arrest; and the third reflection is that there is an extreme frequency of local limited tuberculous deposit as compared with the generalised disease. How, then, if tubercle has gained admission are we to aid Nature in this spontaneous tendency to limitation and arrest?

Let us by no means deny the possible utility of fresh attempts at serum-therapeutics nor the tentative use of disinfectants introduced into the blood-stream, such as the formaldehyde plan of Dr. R. Maguire. These methods may prove beneficial in the concomitant and secondary infections even if they do not control the tuberculous process pure and simple. Also we are grateful for all that the surgeons have done in respect to glands and joints and abdominal tuberculosis and for the recent applications of Roentgen rays and Finsen's method to cutaneous tuberculous lesions. But surely the teaching of pathology is that the fortifying of the general resistance of the individual is the most important indication of all. Real, true advance always tends to simplification, and the great fundamental therapeutic remedies are the employment of fresh air and sunshine, of good food, and of regulated exercises. This, surely, is the inwardness of what has been called the sanatorium treatment. Let us gratefully recognise what Brehmer and Dettweiler and Trudeau and Walther have taught us, but in this meeting of the British Medical Association it is fitting that we should remember that 60 years ago an Englishman—a village general practitioner, George Bodington of Sutton Coldfield—taught, both by precept and by the results of actual experience, what were the proper methods of treating phthisis. The measures upon which he relied were that the patient should live most of the day in the cool open air; that his rooms should be thoroughly ventilated and in temperature not vary greatly from that of the outer air; that daily

driving or riding, and as soon as possible walking, should be enjoined; that a generous diet should be given; and that all this should be carried out under the assiduous daily and even hourly supervision of a practitioner living under the same roof or close by. Bodington's criticisms of the orthodox antiphlogistic doctrines of his time were as sensible as they were trenchant, but it may be questioned whether in his rebound from them he did not attribute undue value to sedatives and stimulants as adjuncts to his treatment. But the main lines which he laid down are admirable.

Let us now consider in detail what we have learned from recent sanatorium experience in our own time. First, we have learned the value of hyperaeration and of establishing tolerance to cold and to exposure to variations of temperature. The value of hyperaeration is not summed up in its affording more effective oxygenation to the lungs, parts of which are *hors de combat*, though that counts for a great deal. The access of free air is also a natural and wholesome stimulus to the nervous system. It increases the appetite and lessens the languor and exhaustion of a chronic febrile disease which the still warm air of the old sick room did nothing to relieve. The getting rid of the liability to catarrhs of the upper passages by free exposure to pure fresh air had been known to us apart from phthisis, if we had only had the sense to apply it, and the enormous difference between sitting in the open and sitting in a draught was an old story which we ought to have remembered. The daily exposure to free, cool air has also been shown to have a direct benefit in lessening pyrexia, diminishing sweating, and improving sleep. And can we exaggerate the value of the immeasurably greater intake of direct sunshine which this treatment ensures as compared with any ordinary mode of life? With regard to the employment of exercise, the time when it is taken, and the exact amount of it, the sanatorium experience has shown us that the most important therapeutic indications depend on the careful record of temperature. With regard to food we find that the exaggerated fastidiousness which is so hard to deal with in phthisis is less of a difficulty under sanatorium treatment than under ordinary conditions; that the number of patients who are unable to assimilate milk is exceedingly small; and, finally, that the enforcement of large mixed meals, at any rate for a period, is on the whole justified by the results of chemical investigation and of the actual well-being of the patients. But, further, there is the educational side of the sanatorium. The patient is instructed as to the importance of the disposal of sputa and as to the methods by which a phthisical patient may live with his fellow-creatures without risk to them. Surely the imperative necessity of enlightened and unremitting medical supervision in work of this kind is self-evident. Whether there will be evolved any better method of carrying out these indications for the treatment of phthisis in its early and middle stages remains to be seen. So far as the rich and well-to-do are concerned it will probably be found that the sanatorium fulfils the rôle of a school which shall educate them in methods which can subsequently be carried out efficiently at home if the conditions are favourable. But with respect to the poor it is only now and then that the home conditions even in the country admit of adequate early treatment and for them in the immediate future we have to look forward to the multiplication of sanatoriums.

It seems desirable that we should speak more guardedly about the *cure* of consumption and insist rather upon its *arrest*. In that way we throw upon the individual as well as upon the enlightened community the vital necessity of a prolonged after-care of the tuberculous subject. This is another of the instances in which bacteriology has given scientific emphasis and direction to rational therapeutics, for we remember how many of our patients, in spite of having increased greatly in weight and general nutrition and of having improved enormously in physical signs, nevertheless continue after their sanatorium course to expectorate once a day sputum containing some tubercle bacilli. But even when the general nutrition leaves little to be desired, when, so far as physical signs are concerned, the lungs are dry, when the temperature is normal after exertion and at every part of the day, is it wise to adopt the optimist tone and to assure the patient that he is as sound a man as ever? We cannot, even in the most promising cases, exclude the possibility of the reawakening of activity around old foci, nor of entirely new local infections, and we must continually hark back upon the old text of maintaining the resistance at its maximum. Meanwhile for the poor man there is the question of bread-winning, and there is the danger of relapse when he returns to unhealthy surroundings.

The question must be faced whether systematised arrangements can be made for open-air occupation. Whether this can best be done in colonies like the epileptic colonies, where horticulture is taught, or by some method comparable to boarding out, requires much consideration. It is also clear that to meet the full needs of the poor there ought to be some form of special hospital provision made for incurable and rapidly advancing cases of phthisis. These are certainly not suitable for the sanatorium, and it is unfair to frustrate the true work of the sanatorium by sending such patients thither. On the other hand, with our present arrangements of general hospital and infirmary wards the contiguity of cases of acute and curable disease with those of advanced phthisis in which there is copious expectoration is always an anxious matter, even when precautions are taken. We may, nevertheless, be grateful to the bacteriologists for enabling us to give the confident assurance to many a poor consumptive that it is the dried sputum and not the moist material which is the most important, and if the devoted wife who is nursing a consumptive husband will only carry out scientific cleanliness, if she will strive for the greatest amount of ventilation possible, and if she will do her best to maintain her own personal resistance at a maximum, her risk becomes almost a negligible one.

Looking still further ahead, it is clear that the community is beginning to realise the necessity of going to the root of the matter and of seriously attempting to prevent consumption as well as to cure it. First, as to the prevention of infection, voluntary notification has been established in Manchester and elsewhere with very good advantage. There seems to be very little difficulty in securing disinfection of rooms after a fatal case has occurred in the abodes of the poor, and experience would seem to show that with tact the notification of phthisis during life may be followed by sanitary inspection and by much useful guidance as to ventilation, cleanliness, and disposal of sputum. The example of some of the Latin races has been often quoted to us in respect to the popular estimate as to the infectiousness of phthisis, but Heaven forbid that our people should in consequence of any such teaching become prudential cowards and treat the poor consumptive as a leper and a pariah. There have been undoubted cases of hardship in the way of summary dismissal of young people from places of business on account of cough and the suspicion of phthisis. It ought to be an honourable understanding that no employer should dismiss such a person without using his best endeavours to secure admission for him or her to a sanatorium or to some adequate equivalent of the sanatorium.

Passing from the care of the individual sufferer and the protection of his immediate neighbours to the wider claims of the community, let us do our utmost to secure in our towns the greater access of sunshine and not only strive for large open spaces but for free space round our dwellings. Let us face the question of free air in our houses and workshops, and schools, and all public buildings, and wage unceasing warfare against the lodgment of dust in theatres and all public buildings, and insist on the importance of moist cleansing as distinguished from mere sweeping of dusty material. There must come many changes in our modes of home life in large towns, in our house architecture, and lighting, warming, and furnishing. Surely these are not altogether utopian and foolish forecasts to keep before us, and when substantial progress has been made and the public conscience has been quickened and enlightened the sanatorium may be regarded as a temporary and provisional arrangement only and more may be done in the way of rational home treatment even at its outset. At any rate, it is certain that there will be less of it to treat.

With regard to the relation of human tuberculosis to that of the lower animals Koch's remarkable deliverance has no doubt led to much searching of heart, but we must possess our souls in patience and wait for the results of further and more exhaustive investigation. Meanwhile, let us do all we can to prevent the relaxation of the hard-earned sanitary regulations which have been obtained for the protection of the community in respect to cattle. There can be no doubt of the wrong done by allowing milk to be supplied from a cow with a tuberculous udder; and the value of the tuberculin test for revealing this disease has been definitely proved. The instruction to our patients to scald their

milk should be given universally, although we may condemn the prolonged and repeated sterilisation at high temperatures which has lately become fashionable. But I must confess that for my own part I have not yet been convinced that the abdominal tuberculosis of young children is in any large amount the result of infection pure and simple from tuberculous milk. Human tuberculosis absolutely limited to the alimentary canal and to the mesenteric glands is not a very common disease. I believe that for young as well as old the entrance of tubercle is in far greater proportion by the respiratory tract and that its resting place is in the bronchial glands and the lung alveoli, and that in a large number of cases the infection of the mesenteric glands is a secondary one or part of the general infection. Also, the habit of swallowing the sputum, which is so constant in children, ought to be taken into account in the consideration of the production of intestinal and mesenteric tubercle. Three colleagues of mine at the Children's Hospital, Great Ormond-street, London, W.C., who had held the post of pathologist there—namely, Dr. W. S. Colman, Dr. F. E. Batten, and Dr. G. F. Still—have published the results of their investigations, and these all point in the same direction.

The carefully recorded observations of Dr. J. W. Carr, Dr. L. G. Guthrie, and Dr. Northrupp likewise show the great preponderance of bronchial glands as the common site of tuberculous lesions in children. The most important antecedent and predisposing conditions for tuberculosis amongst the children of the poor are measles and whooping cough and the close, stuffy rooms in which they are treated and in which their convalescence takes place. The response of children to open-air treatment is if anything more striking than that of adults, and I believe that it will be found that they are more tolerant of exposure to wind than adults are. The importance to healthy children of passing a great part of the day in the open air has been gradually apprehended by the rich, and the poor have been compelled to learn it by their home conditions, but neither rich nor poor have as yet appreciated how large a slice of every 24 hours of a child's life is passed in the bedroom. The traditional fear of night air and of wide-open windows, which is perhaps the survival of ancient malarial experience, has still to be unlearned in this country. Moreover, we should never forget in our large manufacturing towns the importance in children of paying regard to the unhealthy mouth cavity, which is due to bad teeth and inflamed gums, and likewise to morbid conditions of tonsils and naso-pharynx which make open pathways for the admission of tubercle and lead to localised and limited infections of the glands of the neck. Surgery has done a great deal to help us in dealing with advanced lesions; but surely cleanliness of the mouth in the large and complete sense, improved ventilation, the early instruction in nose-breathing and timely change to hills or seaside after acute specific illnesses and chronic catarrh ought to anticipate and prevent surgical interference in a large number of cases.

Clinical observations ought in future certainly to be carefully made as to the relation of tuberculous milk to the infection of the glands of the neck, but it is exceedingly difficult to get conclusive evidence. What is the practical bearing of the later investigations with regard to the bearing of heredity on tubercle? We have here a conspicuous example of the fact that the more complete our knowledge of the natural history of a disease the more clearly we realise that observations which at an earlier period seemed absolutely conclusive in one direction become susceptible of other interpretations. As we know tubercle now we must admit that if there were definite inheritance of tubercle it would imply a direct transmission of a tangible material from parent to child which would be capable of subsequent dissemination. Now, to say that it is impossible that tuberculous material should exist in the new-born child would, no doubt, be an ultra-dogmatic and unjustifiable statement. So far as I know there is no evidence of any case of fœtal tubercle in the human subject, but there is evidence that the calf may be affected with fœtal tubercle, though this is infinitely rare. It is certainly significant that in infants under 12 months old tubercle is not very common, as we should expect it to be if congenital tubercle occurred. It is in the second year that tubercle becomes very common indeed. The successive attack of several members of a family by tubercle, instead of pointing necessarily to an inheritance of the disease, is often explicable by their being subjected to the same or similar infective conditions. Is there, then, no inherited tendency to develop tubercle at various periods of stress—what has been called inherited vulnerability? That we cannot deny—though it is impossible to prove—but strictly this amounts to nothing more than saying that a given child is delicate and unstable, and all delicacy, whether the parents be tuberculous or not, means weakened resistance to the inroads of disease. This is not an academic question; it is a practical one. Sensible moralists will remind us that the doctrine of original sin is responsible for the excuse and wholesale condoning of much wrong-doing. In our domain we know how often the abject acceptance of the doctrine of heredity has taken away the courage and initiative alike of practitioners and of responsible relatives in dealing with delicacy of constitution as well as with pronounced tuberculous disease.

THE PRACTICAL RESULTS OF THE SCIENTIFIC STUDY OF MALARIA.

In the whole range of medicine there is scarcely a disease which illustrates our opening thesis more forcibly than does malaria. The story of the investigations of our countrymen, Manson and Ross, are fresh within our memory. Up to a certain point the life-history of the malarial parasite had been made clear by the observations of Laveran and Marchiafava. The amœba-like bodies enter the red corpuscles, live on the hæmoglobin, and divide into spores. The latter burst through the envelope of the corpuscle, become disseminated in the blood serum, and repeat the process of the parent organism. But other forms do not develop spores and in some species these assume within the corpuscles a crescent-like shape. When the crescent-like bodies are observed for some minutes on the warm stage a change of shape takes place and motile filaments are observed to escape from them. It was at this point that Manson's insight led him to join issue with the Italian observers, who looked on this stage as one of degeneration, whilst Manson claimed that it suggested another life cycle of the organism within the body of some host other than man, which host should be the means of communicating the parasite to man. That intermediate host, he reasoned, must be a suctorial insect, and predicted that it would prove to be the mosquito. Ross's investigations established the truth of this hypothesis beyond any cavil and narrowed down the number of possible hosts to gnats of the genus anopheles. The next inquiry was to ascertain the important facts as to the habitats of the anopheles and its mode of life. And Ross, in the expedition sent out by the Liverpool School of Tropical Diseases, was able to show that the larvæ of these gnats were to be found in shallow pools which were not big enough or permanent enough for fish, and yet were not small enough to dry up between showers. The drainage or filling up of these pools in the neighbourhood of human habitations, or systematic destruction of the larvæ by the application of paraffin, appeared to be the readiest way of dealing practically with the problem.

The further verification of the mosquito theory was finally set forth by the results of an expedition planned under Manson's direction, and carried out by Dr. L. W. Sambon and Dr. Low of the London School of Tropical Medicine. The objects of this investigation were two-fold: (1) to arrange for the transmission to London, with proper precautions, of specimens of anopheles which had been infected with malaria, and to arrange for a healthy person to be bitten by them, and to watch the result as to the induction of malarial fever; and (2) to instal two healthy persons in a malarial district through the whole of a fever season, providing them with efficient protection against mosquito bites, and to note the result. Ostia, in the Roman Campagna, was chosen for the erection of the experimental hut, which was constructed with the greatest care and furnished with wire netting so as to be absolutely mosquito proof. No quinine or other prophylactic was taken.

Both these sections of the investigation were absolutely conclusive. In two subjects in London a sharp attack of ague was induced by puncture by the infected mosquitoes, and Dr. Sambon and Dr. Low, with precautions as to clothing and as to avoidance of exposure to mosquitoes at their feeding times—namely, just after sunset and after sunrise—sojourned through the fever season with impunity. It is not too much to hope that these researches will jointly give a definiteness and a purpose to attempts made to deal in an effective way with one of the greatest scourges of mankind. But it is not in prophylaxis only that the elucidation of the life-history of malaria has been useful. Slipshod use of the

term malaria has been responsible for many culpable blunders in diagnosis, so that many illnesses have been described as malarial which had no claim whatever to this designation. We also see now that the specific effect of quinine on true malaria is most definite when it reaches the blood as soon as possible after the sporulation of the amœbæ has taken place and the young organisms have escaped from the corpuscles into the serum. We realise, again, that the anæmia, which may come perilously near to being pernicious as the result of the corpuscular destruction, may still persist after the organisms have disappeared, and that it is in this condition that arsenic finds its chief utility. We are still in the dark as to the true relation to malaria of that mysterious disease blackwater fever, which has so much in common with the mild paroxysmal hæmoglobinuria of our own climate. But its refractoriness to quinine is quite in harmony with the hitherto negative results as to the presence of malaria parasites in the blood.

MALTA FEVER.

In Malta or Mediterranean fever we have another illustration of how complete exhaustive pathological investigation has led to the rational separation of a given disease from every other. The discovery by Bruce of the life-history of the micrococcus melitensis settled once for all the specific nature of this intractable but not very fatal illness, and separated it entirely from typhoid fever and malaria.

ACUTE RHEUMATISM.

The microbic origin of acute rheumatism was strongly maintained at the meeting of this Association as far back as 1887 by Dr. A. Mantle, and its clinical analogies with other infective diseases have been repeatedly set forth. The recent researches of Dr. F. J. Poynton and Dr. A. Paine seem to have established the existence of a specific diplococcus in the blood, in the valves of the heart, in the pericardial exudation, in the joints, and in the subcutaneous nodules of acute rheumatism. From pure cultures of this organism intravenous inoculations in rabbits have been followed by clinical manifestations and by non-suppurative lesions similar to those with which we are familiar in acute rheumatism. This seems to be a real contribution to the natural history of the disease, and when we have learned something about the rheumatic toxins and about the changes which supervene upon their formation we shall probably get a more satisfactory explanation of the action of the salicylates than is at present forthcoming, and we may hope for further light as to the treatment of the complications and refractory forms of this common disease.

THE DIFFERENTIATION OF MENINGITIS.

Bacteriology has done a great deal towards the elucidation of the somewhat confused groups of meningitis. Setting aside the septic cases which arise in connexion with otitis and bone disease and injury, as well as those severally dependent upon syphilis and tubercle, there remain (1) the epidemic cerebro-spinal fever in which the characteristic organism is the diplococcus intracellularis; (2) the rapidly acute forms, often vertical, but sometimes cerebro-spinal, which are associated with pneumonia, empyema, and ulcerative endocarditis in which the pneumococcus is the characteristic organism; and (3) the sporadic subacute form especially found among young children, often limited to the posterior region of the base of the brain but sometimes also spinal, which is usually unaccompanied by any visceral disease whatever. In this form Dr. G. F. Still has isolated a diplococcus allied to that of the cerebro-spinal fever but with some definite differences.

There is scarcely any group of diseases in which the resources of therapeutics have been so discouraging. It is true that in the first and third of these forms there have been a certain number of recoveries, and, although for my part I would not relinquish the use of mercury, yet it seems doubtful whether drugs have played any important part in the recovery of the successful cases. Although lumbar puncture and drainage from the cervico-occipital region have temporarily relieved pressure symptoms, they cannot as yet be strongly urged as curative measures. May we not reasonably hope that serum-therapeutics will one day find some tangible success in this group of intractable diseases? The late Dr. J. W. Washbourn, whose premature loss we all lament, had succeeded in making an anti-pneumococcic serum, and it has also been prepared and used in Italy. But the results hitherto obtained, so far as pneumonia is concerned, are inconclusive. I am not aware that there is evidence as to its effect in the form of meningitis depending on the pneumococcus.

"ORGANOTHERAPY."

Dr. Washbourn was cut down in the beginning of his prime, but we have lately lost another physician in the ripeness of years after a long and distinguished career. With the name of Dr. W. M. Ord must always be associated the merit of having given the first systematic and detailed account of the disease which he called by the name of "myxœdema." As you will remember, it was Gull who, in 1873, gave the first clinical description of this malady and in his brief and striking paper with remarkable insight he recognised its affinity with cretinism. But Ord made an elaborate investigation, both pathological and clinical, of several cases and described the atrophic condition of the thyroid gland. And then came a wonderful series of researches. Reverdin and Kocher showed that the outcome of surgical removal of the thyroid for various diseases was the unlooked-for cachexia strumapriva. Horsley proved that myxœdema could be experimentally produced in monkeys by removal of the healthy thyroid. The various attempts to ingraft the thyroid failed from absorption, but presently George Murray proved that hypodermic injections of extract of fresh thyroid were followed by subsidence of the symptoms of myxœdema, and finally Mackenzie and Fox showed that the gland could be equally advantageously administered when taken by the mouth. The analyses of Hutchison and others will probably pave the way to a still further simplification by indicating which are the really efficient constituents of the gland material, and some of the alterative effects in diseases other than myxœdema may perhaps be explained by the unexpected organic combination of iodine which is found to be present in this gland. The relation to exophthalmic goitre, though not yet satisfactorily worked out, is clear enough to show where true lines of fruitful investigation will almost certainly lie. The investigations of Schäfer and Oliver on the suprarenal body have revealed to us the existence of an internal secretion concerned apparently in maintaining the tone of muscular tissues generally and especially of those of the vessel walls. And although they have not yielded a cure for Addison's disease they appear to have given us a hæmostatic agent of considerable local potency.

HOW ADVANCE MAY BE MADE IN THE FUTURE.

Hitherto we have stood on a more or less solid basis of established fact, though there have been many gaps in our knowledge, but it would be interesting to forecast a few of the probable directions in which research in the forthcoming generation is pretty certain to add to the common stores. With regard to nervous diseases it seems almost certain that some of the acute types will be brought still more into line with the specific fevers. Anterior poliomyelitis, for example, which occasionally affects two or three members of a family almost simultaneously and which shows some striking relationships to the exanthemata, will almost certainly prove to be an acute infective disease. The nervous sequelæ and complications of the exanthemata are a mine of clinical wealth and suggestion. For they point not only to disseminated foci of cerebral and spinal hyperæmia and extravasation, but also to later changes at first insidious but sometimes far-reaching, dependent on the dissemination of the toxic products of bacillary growth. It may well be that more developed clinical observation may elicit that in the long latent period which we have assumed to exist between an infective disease and its sequelæ there has been a real continuity of morbid process translateable by signs and symptoms which one day will be obvious enough. If locomotor ataxy, for instance, be, as we believe, the remote outcome of specific disease, it will be strange indeed if the latent period does not reveal some intermediate clinical and pathological changes. The great group of peripheral neuritis, towards the elucidation of which we are pre-eminently indebted to the Manchester School (and notably so within the last year), is indeed a meeting-place for many etiological factors, but it is especially suggestive as showing the parallel effects produced by toxins which are the outcome of bacillary activity, and by inorganic and organic material introduced by way of the alimentary tract, and perhaps by poisonous products elaborated in the body itself by faulty metabolism.

Now with respect to the therapeutics of these diseases, the elucidation of their natural history has unquestionably done a great deal by teaching us what cause to remove, and so to

prevent the further extension of the malady, even in some cases up to a fatal issue. Still, it must be confessed that some members of the group show a singular tenacity in going through a certain evolution, even when the peccant cause has been removed. This may seem a disparagement of my original thesis, but knowledge is always justified, and it is something to be able to say that although remedies have not hitherto materially modified the process, yet that the cause having been removed we are tolerably certain that, provided there is no extension to the medullary centres, the cycle will come to an end and that recovery will ultimately be complete. Further elucidation may yet show a definite method of shortening the morbid process. But if the more complete knowledge of the natural history of these and other obscure nervous diseases does not in the immediate future pave the way to definite antidotes for them it will at least save us from many a blunder. We shall learn to leave for a time the morbid processes severely alone and to concentrate our therapeutic efforts on food and on the improvement of the general metabolism of the patient. Can there be any reasonable doubt that we are on the eve of a fuller elucidation of cancer, and that when the history of the organism which we suspect to be behind it has been learned then the fragmentary and isolated pieces of knowledge which have been painfully and slowly acquired during past generations will slip into their proper places like the blocks in the puzzle of a child? But if the history of previous discoveries in our science goes for anything this, again, will be an instance of the convergence of work of experimental pathology, biology, and chemistry, and of clinical medicine and surgery in their widest connotations.

Gentlemen, I have finished my task. I have tried to drive home the thesis that the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease. I have given various instances in support of this thesis and others could be given. If we are agreed, what is our duty arising out of this conviction? Surely, that we ought to do all that in us lies to maintain, to develop, and to defend experimental research in alliance with clinical work. Our countrymen are wakening from their complacency and are beginning to realise that in our great industries it is imperative, if we would keep our place, that well-directed scientific research should be liberally and steadily maintained. And shall it be said that in the care for the life and health of the community, the noblest and most precious of all industries, we are to be left crippled and poverty-stricken by the absence of suitable equipment?

We need trained workers, not only in our great university laboratories, which are more or less efficiently equipped, but in every large centre of population it is essential that there should be those who are capable and ready to bring special knowledge to bear on the problems of the public health, and that there should be the necessary means to enable the work to be done. It is not the genius of the English people to look to the State to do everything. Whoever reflects on the trend of political thought must see that more and more devolution of the national work will go to the municipalities of the country. Let us carry the municipalities with us in an enlightened crusade. That the public bodies are ready to do the right thing so far as their powers permit and if the plans suggested are practicable is abundantly manifest in this and other great towns. And for far-reaching researches in the advancement of pathology which lie beyond the proper limits which the municipal bodies could consider may we not look to the generosity of Englishmen? How much has been given for hospitals and charitable institutions but how little for the endowment of research which will help to lengthen human life and to mitigate its physical ills. The British Medical Association has an honourable record in its yearly series of timely and generous grants to individual workers for special research; and some invaluable work has been fostered and helped in this way. Might it not in the future seek to cooperate with municipal bodies and through its widespread local branches supply the stimulus and perhaps the pecuniary assistance required to push forward investigation in local laboratories and to afford the direction, encouragement, and countenance which solitary workers so much need. Let us fain hope that the day may come when to the other beneficent functions of this Association there may be added some form of systematised, continuous, and widespread local organisation for the scientific study of the problems of disease.

Five Clinical Lectures
ON
THE CAUSATION AND PREVENTION OF PHTHISIS.

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LECTURE V.[1]

GENTLEMEN,—Another argument which has been advanced against the compulsory notification of phthisis is that it would not work. It is argued that there is no likelihood of its being efficiently and satisfactorily carried out in this country, that there would be insuperable difficulties in carrying it out in practice, that it would put unjustifiable hardships upon phthisical patients since it would in many instances lead to their losing their employments, that it would alienate the public in regard to measures of prevention which cannot succeed unless they have the support of public opinion, and that it would place insuperable hindrances in the way of the early treatment of the disease on which the arrest of its future progress and its cure so largely depend. A number of different and very weighty objections are contained in these statements which must be considered individually.

Whether a scheme of compulsory notification for phthisis would work or would not work in practice (whether it could or could not be efficiently carried out in this country and whether there would be or would not be insuperable objections to carrying it out in practice) entirely, or certainly very largely, depends upon the nature of the system of compulsory notification, or rather upon the nature of the action (the preventive measures) which would follow upon such notification and the methods adopted for carrying such action into effect. I admit, of course, that if phthisis were included under the Infectious Diseases (Notification) Act of 1889, with the object and intention that the same measures of prevention which are applied to the diseases scheduled or included under that Act should be applied to phthisis, the scheme would not work. This argument I have already met. I have pointed out that the restrictive and preventive measures which are required in the case of phthisis are altogether different from, and very much less stringent than, the restrictive and preventive measures which are required in the case of the contagious and infectious diseases scheduled under the Act of 1889; and further, it is essential to remember that restrictive measures would only be required in a limited number of cases, for, as the Board of Health of the city of New York puts it: "The sanitary supervision of phthisis should be considered largely on the merits of individual cases and conditions or of classes of cases and conditions." The question is not whether phthisis should be included under the Infectious Diseases (Notification) Act of 1889 with the intention that the same preventive measures which are applied to the diseases scheduled and included under that Act should be applied, but whether it is or is not advisable to make the notification of phthisis compulsory in order that the measures which are advisable and specially adapted for its prevention—i.e., for the prevention of phthisis—may be applied. In other words, Is it possible to devise a scheme of compulsory notification for phthisis which would work in practice? The answer is that such a scheme is in actual operation in the city of New York. On Jan. 19th, 1897, the following amendment (Section 225) of the Sanitary Code of New York was adopted by the Board of Health of New York and the following code of instructions was issued to every practising physician in the city:—

CIRCULAR OF INFORMATION TO PHYSICIANS REGARDING THE MEASURES ADOPTED BY THE BOARD OF HEALTH FOR THE RESTRICTION AND PREVENTION OF TUBERCULOSIS IN THE CITY OF NEW YORK.

It is well known to the physicians of the City of New York that for a number of years the Health Department has been earnestly engaged in the study of tuberculosis, the most widespread and fatal disease

[1] Lectures I., II., III., and IV. were published in THE LANCET of July 5th (p. 6), 12th (p. 61), 19th (p. 132), and 26th (p. 200), 1902, respectively.

occurring in this city, and in the initiation of such measures for the curtailment of its ravages as seemed practicable and imperative.

From the beginning of this work the Board of Health has recognised the fact that while tuberculosis is unquestionably a communicable disease, yet the liability to its transmission may be so greatly diminished by simple precautions as to sharply separate it from those diseases properly classed as contagious. It is to be remembered that while tuberculosis is always the result of direct infection, yet it is far less readily communicated than such diseases as small-pox, scarlatina, &c., and that if proper sanitary conditions can be secured in each case, there is little danger of the transmission of the disease to others. *The sanitary supervision of this disease should, therefore, be considered largely on the merits of individual cases and conditions, or of classes of cases and conditions.* [No italics in the original.]

Thus in its "Circular of Information for Consumptives and those living with them" the Health Department has emphasised these facts: That a person suffering from consumption may, if his sputum be properly cared for, pursue his usual avocations without endangering others; that the disease is often curable; and that early recognition greatly enhances the chances for recovery. As this relatively innocuous character of pulmonary tuberculosis is absolutely dependent upon the intelligent observation of simple and obvious measures for the disposal of the sputum, the earlier efforts of the board were largely either educational or directed to the collection of knowledge regarding such cases, or groups of cases, as seemed to constitute the most serious menace to the welfare of the public.

On Feb. 13th, 1894, the Board of Health passed a series of resolutions designed to assist in the accomplishment of its aims in the suppression of tuberculosis. One of these resolutions involved the reporting of certain classes of cases of tuberculosis, and, in compliance with it, 4166 cases were reported in 1894, 5818 in 1895, and 8344 in 1896, and the department was enabled, without opposition and without the imposition of hardship upon individuals, to extend its educational influence and to protect a large number of persons from risks which, without such measures, must inevitably have led to further serious spread of the disease.

In order to more firmly establish and to extend the work carried on under the measures above-mentioned, on 19th January, 1897, the following amendment to the Sanitary Code was adopted by the Board of Health:—

"Sec. 225. That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the Sanitary Bureau, in writing, the name, age, sex, occupation, and address of every person having such disease who has been attended to by, or who has come under the observation of, such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers, or the principal, superintendent, or physician, of each and every public or private institution or dispensary in this city, to report to the sanitary bureau in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation, and last address of every person afflicted with this disease, who is in their care or who has come under their observation within one week of such time. It shall be the duty of every person sick with the disease, and of the authorities of public and private institutions or dispensaries, to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis."

This section of the Sanitary Code in effect gives legal force to the measures which had been provisionally adopted by the board under resolutions three years earlier. It will be noted that in this section of the Sanitary Code pulmonary tuberculosis is classed as an "infectious and communicable disease, dangerous to the public health," *and is not grouped with the contagious diseases.* [No italics in the original.]

The following circular of information to physicians regarding the measures adopted by the Board for the restriction of this disease was originally published in 1893 and was then forwarded to every physician practising in this city. It is now re-issued by the Department, after being slightly modified to correspond with the provisions of the above amendment. It describes, in sufficient detail for the information of physicians, the purpose of the Health Board and the scope of its work in relation to tuberculosis. The circular follows:—

"The communicability of pulmonary tuberculosis has been so thoroughly established, and is now so generally recognised by the medical profession throughout the world, that the Board of Health of New York City has determined to take active steps looking toward its prevention in this city, and has adopted the following measures:—

"First. The Health Department will hereafter register the name, address, sex, and age of every person suffering from tuberculosis in this city, so far as such information can be obtained, and will require that all physicians furnish such information to the Sanitary Bureau, as provided in the above section of the Sanitary Code (postal cards for reporting cases of tuberculosis will be forwarded on application). *This information is solely for record, and in no instance will visits be made to such persons by the inspectors of the Department, nor will the Health Department assume any sanitary surveillance of such cases, unless the person resides in a tenement house or lodging house (unless in other cases the attending physician requests that an inspection of the premises be made). In no case where the person resides in a tenement house or lodging house will any action be taken if the physician requests that no visits be made by inspectors and is willing himself to deliver circulars of information or to furnish such equivalent information as is required to prevent the communication of the disease to others.* [No italics in the original.]

"Second. When the Health Department obtains knowledge of the existence of cases of pulmonary consumption residing in tenement houses or lodging houses (unless the case has been reported by a physician and he requests that no visits be made) inspectors will visit the premises and family, will leave circulars of information, and instruct the person suffering from consumption, or the family, as to the measures which should be taken to guard against the spread of the disease, and, if it is considered necessary, will make such recommendations for the cleansing or renovation of the apartment as may be required to free it from infectious material.

"Third. In cases in which it comes to the knowledge of the Health Department that rooms or apartments in tenement houses, lodging houses, &c., which have been occupied by a consumptive, have been vacated by death or removal an inspector will visit the premises, and, when necessary, will direct the removal of infected articles, such as carpets, rugs, bedding, &c., for disinfection, and will make such written recommendations to the Board as may be required regarding the cleansing and renovation of the rooms or apartments. An order embodying these recommendations will then be issued on the owner of the premises and compliance with this order will be enforced. No persons other than those there residing at the time will be allowed to occupy such rooms or apartments until the order of the Board has been complied with. Infected articles, such as carpets, rugs, &c., will, when necessary, be removed by the Health Department, disinfected and returned without charge to the owner.

"Fourth. For the prevention and successful treatment of pulmonary tuberculosis, it is of vital importance that a positive diagnosis be made at the earliest possible moment. In order that the assistance afforded by bacteriological examinations of the sputa may be at the command of physicians in all cases, *not under treatment in hospitals*, the Health Department is prepared to make such bacteriological examination, if samples of the sputa, freshly discharged, are furnished in clean, wide-necked, *well-stoppered* bottles, accompanied by a blank giving the name, age, sex, and address of the patient, the duration of the disease, and the name and address of the attending physician. Bottles for collecting the sputa, with blank forms to be filled in, can be obtained at any of the drug stores now used as stations for the distribution and collection of serum tubes for diphtheria cultures. After the sputum has been obtained, if the bottle, with the accompanying blank filled out, be left at any of these stations, it will be collected by the Health Department, the sputum examined microscopically, and a report of the examination forwarded to the attending physician free of charge. *The information regarding cases of pulmonary tuberculosis obtained by the Health Department through such bacteriological examinations of sputum is solely for registration, and cases of pulmonary tuberculosis thus reported will not be visited by the inspectors of the Health Department, nor will circulars be forwarded to them without the special request of the attending physician.* [No italics in the original.]

"Fifth. The authorities of all public institutions, such as hospitals, dispensaries, asylums, prisons, homes, &c., are required to furnish to the Health Department the name, sex, age, occupation, and last address of every consumptive coming under observation within seven days of such time. The premises occupied by all persons reported by the authorities of public institutions as suffering with pulmonary tuberculosis will be visited by inspectors of the Health Department and such action taken as seems necessary.

"Sixth. The authorities of all public institutions, such as hospitals, dispensaries, asylums, prisons, homes, &c., will hereafter be required to furnish to the Health Department the name, sex, age, occupation, last address, and duration of residence in the institution of every inmate suffering from consumption, who is discharged from the institution previous to or on the day of such discharge."

It is the earnest wish of the Board of Health that all practising physicians in this city coöperate with the Board in an intelligent and sustained effort to restrict the ravages of this, the most prevalent and formidable disease with which we have to deal.

In speaking of the results which have so far been attained by compulsory notification Dr. Hermann Biggs, the medical officer of health of New York, states:—

In nearly one-half of the cases occurring in many parts of the tenement-house districts of the city it is found that more or less efficient precautions are being taken, and there has been a most gratifying increase of knowledge and intelligence which affords the greatest promise for the future.

The following objections have been urged against this—the New York—system of compulsory notification:—"That it is a system which is compulsory in a very limited sense; that the success of the system depends largely on the good-will, or the expressed desire, of medical practitioners whether any official sanitary control is to be exercised or not; that it is for any purpose of prevention that can be deemed applicable to the population generally a voluntary system not a compulsory system; and that in this country no statutory effect could be given to a similar system under the present law."

In answer to these objections I would say:—That the New York system seems to me to be a system of compulsory notification which is eminently well adapted for the special peculiarities of phthisis—and that is what is required; that if the system is considered to be satisfactory, statutory effect might easily be given to it in this country by altering the law (if fresh legislation is necessary before it can be adopted and applied), and that, allowing for the differences which obtain between phthisis and the infectious and contagious diseases scheduled under the Act of 1889, it appears, so far as its practical working is concerned, to be very similar to the compulsory system which is employed in Edinburgh for the notification of all the contagious and infectious diseases included under the Infectious Diseases (Notification) Act of 1889.

In the year 1879, 10 years before the Infectious Diseases (Notification) Act of 1889 was passed, the municipality of Edinburgh made the notification of infectious and contagious diseases compulsory. They consequently did not think it necessary to adopt the Infectious Diseases (Notification) Act of 1889. The clause (208) of the Edinburgh Municipal and Police Act of 1879 which refers to the notification of infectious diseases is as follows:—

In order to secure more prompt action in dealing with infectious diseases, every medical practitioner practising within the burgh shall, within 24 hours of the same coming to his knowledge, report to the

medical officer of health every case of cholera, typhus fever, typhoid fever, diphtheria, small-pox, scarlet fever (scarlatina), and measles (in this Act characterised as infectious or contagious diseases), occurring in his practice and stating the house or place where the patient is being treated under a penalty not exceeding 40s.; and if it be found on inquiry by the medical officer of health that the diagnosis of such practitioner was correct such practitioner shall be paid the sum of 2s. 6d. for each case reported and verified as aforesaid; and in order to facilitate the making of such report every such practitioner shall, from time to time, be furnished, on application to the medical officer of health, with printed forms stamped for postal transmission.

The printed forms which were then issued, and which are still issued, to every medical man in practice in the city, are as follows:—

EDINBURGH MUNICIPAL AND POLICE ACT, 1879.

No.

To Medical Officer of Health, Police Chambers.

..... 18

There is a case of.....

at.....

No immediate attention required.

Signature.....

Under this—the Edinburgh System of *Compulsory* Notification for Infectious and Contagious Diseases—the medical attendant is responsible (1) for the notification of cases of the contagious and infectious diseases enumerated above, and (2) is virtually responsible for seeing that, in those cases in which he does not demand the assistance of the medical officer of health, the necessary preventive measures (isolation, disinfection, &c.) are carried out, for, as a matter of fact, the medical officer of health does not take any steps to ascertain that the diagnosis is correct and does not interfere unless his assistance is demanded by the medical man in attendance on the case, or unless he (the medical officer of health) should for any reason conclude that such interference (which had not been demanded by the medical man in attendance) is required. Of course, if there were reason to doubt the correctness of the diagnosis, or to suppose that the medical attendant did not appreciate the gravity of the case or that he was unable without the assistance of the medical officer of health to carry out the necessary preventive measures, the medical officer of health and the sanitary authority would interfere; in other words, they have the power of interfering in every case and of taking any steps for verifying the diagnosis, the removal of patients, the disinfection of houses, &c., which they (the medical officer of health and the sanitary authority) may deem it advisable or necessary to take. But such interference (either for the verification of the diagnosis, for disinfection, or for the removal to hospital), except in those cases in which it is demanded by the medical attendant, is rarely found to be necessary and, as a matter of fact, rarely takes place. In the case of phthisis, such interference, unless it was demanded by the medical attendant, would be very rarely, if ever, required, except in the poorer districts and the overcrowded parts of the city. By the Edinburgh system every medical man who is in attendance on a case of contagious or infectious disease may, practically speaking, be considered to be for the time being in the service of the local sanitary authority. Unless the medical officer of health and the local sanitary authority should see fit to interfere he is entrusted with, the sole responsibility of the case and is virtually responsible for seeing—for by refusing to call in the aid of the medical officer of health he virtually takes upon himself the responsibility of seeing—that the proper measures for isolation, disinfection, and protecting the healthy persons who have been, or who may be, exposed to infection (i.e., who are living with the patient) are carried out. The information conveyed by this system of notification to the medical officer of health is regarded by him as confidential, and, as a matter of fact, is strictly confidential, unless any reason to take action should arise. The experience of Edinburgh shows that such a system of compulsory notification works well. Sir Henry Littlejohn informs me that it "has worked in this city of medical men without a hitch," and that it is efficient in the case of all of the infectious and contagious diseases included under the Act of 1899. *A fortiori*, therefore, there is every reason to suppose that it would work well and that it would be efficient in the case of phthisis, provided, of course, that the powers with which the sanitary authority were endowed and the action which the sanitary authority would take subsequently to the notification were modified and adapted to the special requirements of the disease (phthisis).

Such a system as that which is in actual operation in New York for the compulsory notification of phthisis and which in its practical working (allowing, of course, for the differences which obtain between phthisis and the infectious and contagious diseases scheduled under the Act of 1889) appears to be very similar to that which is in operation in Edinburgh for the compulsory notification of the contagious and infectious diseases scheduled under the Infectious Diseases (Notification) Act of 1889 seems to me to be admirably well adapted for the compulsory notification of phthisis.

Everyone allows that it is to the medical men who are in actual attendance on phthisical patients that we must chiefly look, in the first instance at least, for the introduction of preventive measures; it is their duty to advise and instruct their patients and the persons with whom those patients live as to the preventive measures—the destruction of the sputum, ventilation, cleanliness, &c.—which should be employed, and it is their duty to do what they can to persuade the patients and their friends faithfully and diligently to carry these preventive measures into effect. And I maintain that a compulsory system of notification specially adapted to phthisis would greatly strengthen the hands of the medical profession and would enable the medical practitioner in attendance on a phthisical patient to insist with much more chance of success than is at present the case that in those cases in which his advice, unbacked by such a system, is ignored the necessary preventive measures *are* carried into effect. In this connexion the following statements of Professor G. Sims Woodhead and Dr. A. Newsholme seem to me to be of great importance.

Professor Woodhead says:—

> In regard to the prevention of phthisis spreading from human patients, I must frankly confess that I am greatly in favour of compulsory notification; and I am in favour of this because I think it is one of the means of impressing upon the public, and even in some cases upon ourselves, the fact that there is danger of the spread of infection from tuberculous patients, unless proper precautions be taken by the patient and his friends to destroy all excreta and secreta that may contain tubercle bacilli. The very fact that we consider it necessary to speak of tuberculosis as a notifiable disease should render our task of disinfecting a patient and his surroundings a much easier one.[2]

Dr. Newsholme says:—

> It will be argued that sanitary authorities (local or central) already have power under existing laws to diminish the operation of respiratory impurities and industrial dust, and possibly, to a less extent, of damp and dark houses. That is a plausible opinion which will probably continue to find favour with those who have no practical experience of local sanitary administration, but it will not bear critical study. Even supposing that there are ample legal enactments against overcrowding and dust, it must be admitted that the knowledge of a case of phthisis in connexion with overcrowding or a dusty occupation will enormously strengthen our hands in securing the adoption of the necessary remedies. Many nuisances cannot now in many districts be remedied because support is not obtained from the sanitary authority or the magisterial bench. Would not a medical certificate that a case of phthisis had occurred in the house where the nuisance was found turn the balance in favour of reform?" And again, "Even in well-organised districts, a house is seldom inspected oftener than once a year; and it must be evident that if we knew of a case of phthisis in a house, immediate cognisance could be taken of, and action adopted in respect of, conditions favouring phthisis which, under other circumstances, would probably be delayed for many months, and which might have to be entirely omitted in the present state of education of the public. Our leverage in sanitary operations would be enormously increased if a considerable proportion of the cases of phthisis were notified. Quite apart from the adoption of special precautionary measures against infection the localisation and remedying of house defects as to cleanliness, crowding, and dampness would amply repay for all attempts at the notification of phthisis.

Under a system of compulsory notification such as I advocate (the New York system or the Edinburgh system of compulsory notification applied and adapted to phthisis) the medical practitioner would be responsible for the notification; he would be obliged to report to the medical officer of health every case of phthisis immediately it came under his observation: he would receive a fee for such notification; he would at the same time indicate whether the assistance of the medical officer of health was required—in other words, whether the sanitary surroundings of his patient were such as to *necessitate* the intervention of the local sanitary authority or not; and he would, during the subsequent progress of the case—i.e., so long as the patient remained under his observation, be required to report to, in other words to request the aid and intervention of, the sanitary authority whenever such intervention seemed urgently required. For each such additional report he should, I think, be paid an additional fee. The medical officer of health would in this way be informed of the exact

[2] Edinburgh Medical Journal, May 1899, p. 467.

locality of every case of phthisis as soon as it came under medical observation, and he would be at the same time informed by a highly skilled inspector—the medical man in attendance—whether the surroundings of the patients were in a sanitary or an insanitary condition and whether the active intervention of the medical officer of health (i.e., of the sanitary authority) were required or not. Further, he would be kept in touch with all the cases of phthisis which had been notified so long as they continued under the care of the medical practitioners who had notified them. The migratory cases should, I think, be again notified whenever they came under the observation of another medical practitioner and for such second or subsequent notifications another, or perhaps a reduced, notification fee should be paid. It cannot, I think, be doubted that the information obtained in this way would be of the greatest possible value to the medical officer and to the sanitary authority in dealing with the disease.

Another objection urged against such a system of compulsory notification of phthisis as I have sketched out above is that frequent inspections would be necessary, that a large staff of inspectors would be required, and that intolerable friction would occur as the result of such inspections.

In answer to this objection I would say, firstly, that under such a system as the Edinburgh system of compulsory notification a comparatively limited amount of inspection would be required, for the medical attendants who report the cases would, practically speaking, be inspectors. In those cases in which they did not demand the assistance of the sanitary authority the medical attendants would, virtually speaking, make themselves responsible for seeing that the necessary precautionary measures were satisfactorily carried out, so far as the circumstances and surroundings of the patient would allow, and they would, without doubt, usually report that no assistance from the medical officer of health and the sanitary authority was required; for if—as is the fact—the assistance of the medical officer of health and of the sanitary authority is rarely demanded in the case of the contagious and infectious diseases scheduled under the Act of 1889, such assistance would be very much less frequently demanded and required in cases of phthisis. Secondly, that under the Edinburgh system, and so far as I know under the New York system, friction does not occur. On this point Dr. Newsholme states:—

> The inquiries resulting from notification would, in nearly every instance, be made at the patient's home, not at his place of business, and with proper provisos there need be, and would be, no interference with business. In the final analysis, if any must suffer ought it not to be one rather than many? But, I repeat, there is not the slightest necessity for anyone to suffer through notification and the medical officer of health through whose action such suffering arose would speedily find his position so uncomfortable that the indiscretion would not be repeated.
>
> Speaking from 15 years' experience of local sanitary administration in London and Brighton, I have no hesitation in stating my emphatic opinion that the visitation of phthisical houses in which such visits are desirable is not only perfectly practicable but is of as great importance to the public weal as similar visits in houses where diphtheria or enteric fever has occurred. I protest against the assumption which appears to be so commonly entertained that the official work of the medical officer of health is confined to the seven chief zymotic diseases and that tubercular diseases, which cause 50 per cent. more deaths than the aggregate of these seven zymotic diseases and are much more capable of being prevented than are several of them, are outside the sphere of his official action.

And, thirdly, that even if a considerable amount of inspection were required the necessary staff of skilled inspectors (medical men acting under the immediate supervision of the medical officer of health) ought, in my opinion, to be provided by the local sanitary authority and paid for out of the rates. Even the limited amount of inspection which would be required under the system of compulsory notification which I advocate would no doubt involve a large expenditure of money—at all events for some years to come—but, as I have already pointed out, the object to be obtained is well worth paying for. The financial objection has already been considered.

Another objection which I have heard urged against the compulsorily notification of phthisis is the difficulty of diagnosing phthisis in its early stages and the friction which would consequently arise both between the patient and his doctor who made the notification or suggested that the case should be notified, and the medical man originally in attendance and another medical man who would be certain in many cases to be called in when the patient learned that he (the medical man first in attendance) proposed to notify the case.

The answer to this objection is that no case of phthisis would be notified unless it had been proved by microscopical examination that tubercle bacilli were present in the sputum, a fact which would, of course, put the diagnosis beyond dispute. This is one of the reasons why I think it is the duty of the sanitary authority to provide laboratories, or to make arrangements with existing laboratories, for the testing and reporting on the sputum.

Another objection raised against such a scheme of compulsory notification as has been suggested above is that if the phthisical patients refused to carry out the necessary preventive measures (destruction of the sputum, &c.) the sanitary authority would be powerless, unless they were to insist upon the removal of such (dangerous) phthisical patients to a hospital, and consequently that the sanitary authority, if it had the power to insist upon such removal and were to insist upon it, would require to provide the necessary hospital accommodation for such cases.

On this point Dr. Hermann Biggs says:—

> A great obstacle to practical success lies in the fact that the necessary precautions cannot, in a large number of cases, be adopted without the establishment, under the direct control of the Health Department, of special hospitals for the treatment of this disease, and hence numerous instances are met with every week "in which members of many households, numerous inmates of crowded tenement-houses, employés in dusty and unventilated workshops, and many others ..... reject all proffered assistance and instruction. In such cases sanitary suggestions are futile and removal to a hospital constitutes the only effective action.

This is, I admit, the great practical difficulty in the way of effectually dealing with the disease. The fact must, I think, be recognised and faced that if a phthisical patient refuses to carry out the necessary preventive measures (for the destruction of the sputa, &c.) he is, in some degree, a source of danger to the healthy (unaffected) persons with whom he is in immediate contact and to the public at large. I admit, with the French Commissioners who have urged this as their most important argument against the compulsory notification of phthisis, that the only logical method of dealing with this difficulty is to give the sanitary authority power to consign such cases of phthisis (or such cases as are considered dangerous) to a hospital and to retain them in hospital until they agree to carry out the necessary preventive measures.[3]

I have already stated that while, in my opinion, it is not the duty of the sanitary authority to provide hospital accommodation for the *treatment* of cases of early phthisis—i.e., to provide and keep up sanatoriums—it is the duty of the local municipal and sanitary authorities (if a real attempt is to be made to reduce the prevalence of phthisis to the lowest possible attainable dimensions) to provide out of the rates, either by themselves or conjointly with the Poor-law authorities, hospital accommodation for those cases of phthisis in which the patients either from (*a*) the insanitary nature of their surroundings combined with their inability to carry out the necessary preventive measures, or (*b*) the insanitary nature of their surroundings combined with their refusal to carry out the necessary preventive measures, are *a distinct source of danger* to the healthy persons with whom they are in immediate contact, and, therefore, to the community at large. Theoretically speaking, cases of this kind ("dangerous" cases of phthisis as I term them) ought to be sent to hospital, and personally I am strongly in favour of giving to the sanitary authorities the compulsory powers which are necessary for dealing with such cases, for such compulsory powers are, I think, necessary if our preventive measures are to be thorough and effectual (i.e., in order to reduce the prevalence of the disease to the lowest attainable limit). Further, I believe that a little compulsion judiciously applied (i.e., applied in the worst and most glaring cases) would, in the course of a short time, cause a very substantial diminution in the number of cases in which the patients refused to carry out the necessary (easy and simple) preventive measures, though their number would even then continue to be very great.

But while making this statement I do not mean to suggest

[3] "Le seul moyen logique et efficace contre le tuberculeux qui ne peut ou ne veut détruire ses crachats ou ses suppurations bacilliféres, c'est *l'internement dans un hôpital*. Les Drs. Holmboe et Nanssen, chargés de rédiger, pour la Norvège, un projet de loi contre la tuberculose n'ont pas hésité. Voici le 2e paragraphe de l'article VI. de leur projet: 'Dans le cas où la situation du malade ne lui permettrait pas de prendre les mesures nécessaires, ou que le malade, par suite de mauvaise volonté, aurait negligé de suivre les injonctions de l'autorité médicale, celle-ci est autorisée a ordonner le transport immédiat dans un hôpital.'"

that sufficient hospital accommodation must immediately be provided for all the cases of phthisis in which the patients are either unable or unwilling to carry out the necessary preventive measures. The numbers are far too great for this. All I advocate is the provision, in the first instance, of a certain limited amount of hospital accommodation sufficient to receive the worst and most aggravated—i.e., the most dangerous—cases. I admit that it would be necessary to apply such compulsory powers cautiously and to a limited extent, at all events in the first instance. But while this is my individual—I would add my strong and deliberate—opinion it must be allowed that neither the public, the profession, nor many of the warmest advocates of compulsory notification seem as yet prepared to consent to such compulsory notification. Dr. Newsholme, for example, states:—

> In practice, segregation of the phthisical patient, except where it is voluntarily undertaken in the interest of the patient, is entirely out of the question.

I have already dealt with the objection that the provision of such hospital accommodation would necessitate a very large expenditure of money, and have stated that unless the public and their representatives—the municipal and sanitary authorities—are prepared to face a large expenditure of money it is, in my opinion, useless and Utopian to talk of attempting to stamp out and eradicate phthisis and other forms of tuberculous disease, or to expect that the maximum amount or anything like the maximum amount, of prevention which is attainable with our present means of prevention will ever be reached.

Another objection, which is practically the same as that which has just been considered, is that the compulsory notification of phthisis would interfere with the liberty of the subject to such an extent that it would not be accepted by the people of this country. This objection seems to be based upon the supposition that if the notification of phthisis were made compulsory the same action (restrictive measures) would necessarily follow as in the case of the contagious and infectious diseases scheduled under the Act of 1889.

I have, however, already pointed out that the action which would follow the compulsory notification of phthisis would necessarily be very different from the action which follows the compulsory notification of the infectious and contagious diseases scheduled under the Act of 1889, since the reasons for notification are entirely different in the two cases—I mean the contagious and infectious diseases scheduled under the Act of 1889 on the one hand and the great majority of cases of phthisis on the other—and in those (dangerous) cases of phthisis in which compulsory removal to a hospital is urgently required I see no reason why the public should merely because of their chronicity, though I admit that their numbers would be a great practical difficulty and that for a time at least one would have to be content with dealing with the worst (most dangerous) cases only, object to such compulsory removal, since it would only be practised because the patients were a distinct source of danger to their neighbours and to the community, any more than they object to the compulsory removal of cases of the infectious or contagious diseases scheduled under the Act of 1889. But, as I have just stated, the public do not as yet seem to be prepared to consent to such restrictive measures, though individually I am strongly of opinion that without such restrictive legislation it will be impossible to reduce the prevalence of the disease to anything like the lowest possible attainable limit. Too much weight must not, however, be attached to this admission as an argument against the compulsory notification of the disease, for I submit that the compulsory notification of phthisis would still be of immense benefit even if it did not carry in its train compulsory powers for dealing with (i.e., removing to hospital) those patients whose sanitary surroundings are eminently bad and who are either (*a*) unable or (*b*) unwilling to adopt the necessary preventive measures; though I believe that the benefits which would result from any system of compulsory notification would be considerably lessened if it did not carry with it compulsory powers for dealing with those cases of phthisis which I have termed "dangerous."

The next argument—or, rather, series of objections—which has been advanced against the proposal is that the compulsory notification of phthisis would entail great hardships on phthisical patients since it would lead to a large number of them being dismissed from their employments; that phthisical patients who had been dismissed in this way would in future take care not to afford any outward evidence of their malady by the adoption of precautionary measures urged on them in the interests of the public; that they would consequently, after being once dismissed from their employment, avoid consulting another medical practitioner; and that a large amount of harm would therefore result if the disease were scheduled under the list of notifiable diseases under the English Act, for the knowledge that notification would ensue would prevent resort to medical advice in the early stages of the disease when its progress could be best arrested.

I admit that if the premises on which this argument is based are correct and that if the conclusions which are founded on those premises are accepted they form serious and weighty objections to the compulsory notification of the disease. But, I ask, are these premises and these conclusions correct? And my answer is that I do not think so. It is argued that "the justification for the demand that phthisis shall be compulsorily notified lies in the fact that the person in question is suffering from a dangerous infectious disorder communicable from person to person." I emphatically protest against, and disagree with, this way of stating the fact that phthisis is an infectious disease which may under certain circumstances be communicated from person to person, for it is, I maintain, calculated to give an altogether erroneous conception of the infectiousness of phthisis and of the danger which a healthy unaffected person runs of contracting the disease from being in contact with a person affected with the disease, and it is, therefore, calculated to do harm by unduly alarming the public. In my opinion it would be more correct to say that the justification for the demand that phthisis shall be compulsorily notified is founded on the belief that it (compulsory notification) is necessary and essential in order to reduce the prevalence of the disease to the lowest attainable point. I allow that if the public are taught, without any qualification, to believe that phthisis is a dangerous infectious disorder communicable from person to person loss of employment would be likely to follow the compulsory notification of the disease. But I emphatically dissent from the unqualified statement that "phthisis is a dangerous infectious disease communicable from person to person." I submit that if the public were made thoroughly to realise and to appreciate the fact that a healthy person who lives or works in close contact with a patient suffering from phthisis runs, practically speaking, little or no risk of contracting the disease, provided that certain simple precautionary measures are carried out (notably the disinfection or destruction of the sputum while it is still moist), such loss of employment would be much less likely to occur than has been supposed. The fact that, provided the sputum is destroyed or thoroughly disinfected while it is still moist, the risk of infection in cases of phthisis is so slight that for practical purposes it may be entirely ignored is of paramount importance. It is of the utmost importance that it should be brought home to the public. The public must be made to understand (1) that phthisis is not dangerous except through the sputum;[4] (2) that the sputum is easily dealt with (disinfected and destroyed); and (3) that if the sputum is disinfected or destroyed while it is still moist and proper precautions are taken in respect to ventilation and cleanliness there is practically no risk of being in close contact with a patient affected with phthisis.[5] The latter statement is abundantly justified by the statistics of the Brompton Hospital and by the opinion of numerous weighty authorities. These observations show that even in hospitals specially devoted to the treatment of consumption and filled with phthisical patients the physicians, nurses, and attendants do not acquire the disease, provided that proper attention is given to ventilation, cleanliness, and the disinfection of the sputum. Cornet states: "The consumptive in himself is almost harmless and only becomes harmful through bad habits."

I of course admit that a healthy person should not sleep in the same bed with a patient suffering from phthisis. I admit that if this condition were enforced a certain limited number of phthisical patients would lose their employment.

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[4] In the present connexion I need not refer to the diarrhœa which results from tuberculous ulceration of the intestine, since tuberculous ulceration of the intestine does not occur in the early stages of phthisis, and since persons affected with tuberculous ulceration of the intestine, whether occurring as a late event in the course of an ordinary phthisis, or as an early event in the course of generalised (acute) tuberculosis, are not in a position to follow their employment.

[5] Except through inhaling particles of sputum coughed into the atmosphere, or through kissing, or using a cup, spoon, &c., contaminated with phthisical sputum.

But this is inevitable. It cannot be prevented under any circumstances (whether the compulsory notification of the disease is adopted or not), provided that it be granted—and every one, I presume, will grant this—that the healthy (unaffected) members of the community have a right to be protected from infection. It must be remembered that the healthy members of the community and healthy employés have, at least, equal rights with the diseased (phthisical) members and diseased (phthisical) employés. I therefore maintain that no employer has a right to allow—and the sanitary authorities have no right to permit, if they can prevent it—an employé who is suffering from phthisis to sleep in the same bed with a healthy employé. I further suggest—though this is no doubt a debatable question, since the risk that a healthy person runs of being closely associated with a patient suffering from phthisis is a small risk—that no right-minded employer of labour should, if he can prevent it, allow a person who is suffering from phthisis to work in close contact with other healthy employés, unless he (the employer) is satisfied that the proper precautionary measures (for the destruction of the sputum, for ventilation and cleanliness) are carried out, since such preventive measures are, in most cases at all events, simple and are easily and readily carried out. I maintain that the healthy members of the public—the large majority—have a right to demand that they should be adequately protected against phthisis, just as they have a right to demand that they should be adequately protected against the diseases scheduled under the Act of 1889, notwithstanding the differences as regards chronicity.

I conclude, then, that if the public were made clearly to understand that there is little or no risk of a healthy person contracting phthisis from being in close contact with a person affected with phthisis, provided that proper precautions with regard to cleanliness, ventilation, and the disinfection of the sputa are carried out, the loss of employment which it is stated would result from compulsory notification would be much less than has been supposed.

But I go further than this and I suggest that the compulsory notification of phthisis, instead of being likely to cause the dismissal of phthisical patients from their employments, would, on the contrary, be likely to maintain them in their employments. My reasoning is as follows. Up to the present time or until quite recently the public have not realised the fact that phthisis is under certain circumstances an infectious disease—i.e., capable under certain circumstances of being conveyed from the sick to the healthy. Consequently phthisical patients have been allowed to work in close contact with healthy persons, and even to sleep in the same beds with healthy persons, without any special precautions being taken. The great advance in public knowledge regarding phthisis which has recently taken place and which is making rapid progress every day has placed the position on a very different footing. The public have been now taught to regard phthisis as an infectious disease. But, as I have already pointed out, this statement requires qualification—it is, in short, essential that the public should be also taught that there is practically little or no risk of infection, provided the proper precautions are taken and that these precautions are simple and easy. Consequently it reasonably may be expected that as soon as the public thoroughly realise that there is a risk of the disease being propagated from person to person, unless satisfactory precautions (for the destruction or disinfection of the sputum and as regards ventilation and cleanliness) are taken, right-minded employers of labour will not allow persons affected with phthisis to be employed along with other healthy persons, and, therefore, will dismiss persons who are suffering from phthisis, or whom they suspect to be suffering from phthisis from their employment, unless the necessary and simple precautionary measures to prevent infection are taken, and healthy persons will object to be employed in close contact with persons suffering from phthisis, or persons whom they suspect to be suffering from phthisis, unless such precautions are taken. But if they (the public, the employers of labour, and the healthy employés) are made to understand, as they should be made to understand, that there is little or no risk from being closely associated with persons suffering from phthisis provided that the necessary and simple preventive measures (for the destruction of the sputum, ventilation, and cleanliness) are carried out, and if they realise that by a compulsory system of notification every person who is suffering from phthisis will, as soon as he applies for medical advice, be carefully instructed with regard to the necessary preventive measures, and that medical men and the sanitary authorities will do their best to see that such preventive measures are carried into effect, they will feel that they have in compulsory notification and the precautionary measures based thereon a protective measure which is of great benefit to them—which is a distinct safeguard to them. In short, they will realise that with a system of compulsory notification there is much less risk than there would be without a system of compulsory notification of their being associated with patients suffering from the disease. Consequently it may be reasonably expected, I suggest, that in the future phthisical patients will run less risk of being dismissed from their employments if a system of compulsory notification is adopted than they would do if a system of compulsory notification were not adopted.

Since the foregoing paragraph was written I find that the same opinion has been expressed by Dr. Newsholme. He says:—

> While writing the above I have heard of the case of a clerk who appears to have been discharged from his post because he was phthisical in connexion with the recent publicity given to the dangers arising from the sputa of such patients. If the admirable propagandism of the Association for the Prevention of Tuberculosis is to continue (and we all hope that it will) a certain amount of alarm among those imperfectly informed is inevitable. In all probability nothing would be more successful in removing this unreasonable fear (unreasonable when proper precautions are taken) than the knowledge that cases of phthisis are notified to the medical officer of health who has official charge of any necessary precautionary measures.

But even granting that loss of employment did occur in a certain proportion of cases, are we justified for this reason in concluding that the compulsory notification of the disease should not be adopted? I do not think so. A certain amount of hardship must necessarily result if the prevalence of phthisis and other forms of tuberculous disease is to be reduced to the lowest attainable limit. The few must unfortunately suffer for the many. Year by year, as the disease would become eliminated from the population, the few would become fewer and fewer. If I am right in thinking that it is impossible to reduce the prevalence of phthisis to anything like the lowest possible attainable limit without a system of compulsory notification, if compulsory notification would afford, as I hold it would undoubtedly do, valuable assistance in the prevention of phthisis and is essential, and if our preventive measures are to be thorough and effectual, we are surely justified in disregarding, however much we may deplore it, the hardship which would be enjoined upon the few. The benefit to be gained by the many, in my opinion, far outweighs the hardship (loss of employment) to the few.

Let me next consider whether the compulsory notification of phthisis would have the disastrous effects which it is stated it would have in preventing patients suffering from early phthisis taking medical advice and the necessary measures for the cure of their disease. In considering this question it seems to me essential in the first place to determine whether a healthy person does or does not run a risk of contracting the disease from being closely associated—as, for example, in a workshop, office, or shop—with a patient suffering from phthisis. That there is some risk (though I believe in the case of perfectly healthy persons it is, comparatively speaking, a small risk) unless the proper preventive measures (for the destruction of the sputum, satisfactory ventilation, and cleanliness) are taken, everyone will, I suppose, allow. That this risk is greatly diminished and is, practically speaking, abolished if such precautions are taken everyone, or almost every one, will, I suppose, also allow. Further, it must be admitted that a compulsory system of notification such as I have suggested would in some degree diminish the risk to the healthy employés, since it would, to some extent at all events, ensure that the necessary preventive measures were carried out. Again, it must be allowed that the healthy employés have a right to demand either that they should not be employed alongside phthisical patients or that the phthisical patients should be obliged to take the necessary and simple precautions to prevent their being dangerous to their neighbours. I have, further, suggested that if the public are made to understand that there is practically no risk of associating[a] with phthisical patients, provided that certain simple and easily carried out precautions are adopted, in the future phthisical patients will, if they take such precautions and

[a] I exclude sleeping with phthisical patients, for this, as has been already pointed out, is attended with some risk.

if a compulsory system of notification be adopted, be less liable to be dismissed from their employment than if they did not take such precautions and if a compulsory system of notification were not adopted.

Now if these propositions are granted, then it must, I think, be allowed that the disastrous results which have been suggested as the results of compulsory notification—viz., concealing the nature of the complaint, refusing to adopt obvious precautionary measures and to take advice at the stage when the disease is curable, and the extension of infection to others—will not follow. But even granting, for the sake of argument, that considerable numbers of phthisical patients were for the reasons suggested dismissed from their employment, is there sufficient reason to suppose, as has been argued, that they would in order to obtain situations elsewhere refuse to place themselves—or rather, I would say, to continue—under medical treatment in the early and curable stage of the disease? Such a result might perhaps have been expected to follow a few years ago. But would it follow at the present day? I do not think it would be likely to do so in any large proportion of cases of early phthisis, provided that the patients could obtain medical advice and could manage to carry out the appropriate treatment. A few years ago phthisis was popularly regarded as an incurable disease. We now know that, provided that the right means of treatment are employed at a sufficiently early stage of the case, it is a curable disease in a considerable proportion of cases. And if the public are only made thoroughly to realise this fact it is surely reasonable to suppose that even those phthisical patients who should happen to be dismissed from their employment would, in most instances at all events, endeavour by every means in their power to adopt the necessary means to become cured.

In connexion with the compulsory notification of phthisis I have advocated the formation of sanatoriums for the treatment of cases of early and curable phthisis; and what more appropriate cases for admission to such sanatoriums than patients affected with early phthisis who have been dismissed from their employment? If a determined effort is to be made to stamp out phthisis a certain amount of sanatorium accommodation must be provided. This will, of course, involve a large expenditure, but I have already insisted upon the fact that it is hopeless to attempt to deal with the disease in a thorough and effective manner without a very large expenditure of money. I do not mean to suggest that sufficient sanatorium and hospital accommodation must be immediately provided for the reception and treatment of every case of phthisis and for the retention of every early case of phthisis until the disease is cured or until the tubercle bacilli have disappeared from the sputum. This seems to me to be quite impracticable. But I do think that if a determined effort is to be made to reduce the prevalence of the disease to the lowest attainable limit the charitable public and the Poor-law authorities ought to provide a certain amount of sanatorium accommodation for the treatment of cases of early and curable phthisis, and the sanitary authorities ought to provide a certain amount of hospital accommodation for the more "dangerous" cases of the disease.

I would further point out that it is not essential that the early cases should remain in sanatoriums for prolonged periods of time—i.e., until the disease is completely cured or until the tubercle bacilli have disappeared from the sputum—though this would, of course, be advisable and eminently desirable if it could be managed. Even if the early cases of phthisis could be placed in sanatoriums for a limited period—a few weeks only—until the patients were instructed and drilled in the measures which it is advisable and necessary to take for the treatment of the disease and for the prevention of the extension of the disease to others (i.e., for the destruction and disinfection of the sputum), the beneficial effects both to the patients themselves and to the community at large would be enormous. After his discharge from a sanatorium the patient who had been thoroughly taught to carry out the necessary precautionary measures might safely be employed alongside healthy persons and be allowed to follow his ordinary employment, so far at least as the welfare of his fellow and healthy employés was concerned.

In short, for the reasons already given I do not anticipate that a compulsory system of notification specially adapted to phthisis would have the disastrous results, either as regards loss of employment or as regards refusal to continue the necessary medical treatment, which have been suggested. Even if it is admitted that a certain proportion of phthisical patients would probably lose their employment, I believe that if the necessary hospital and sanatorium accommodation were provided they would, in most instances at all events, willingly agree to continue under medical treatment and to do everything in their power to get cured of their disease. This would not, of course, meet the difficulty of providing for the wives and families of those phthisical patients who were thrown out of employment while they—the bread-winners—were undergoing treatment in a sanatorium or hospital. This is, in my judgment, one of the greatest practical difficulties connected with the subject. But it is absolutely impossible to prevent some hardships if the disease is to be dealt with thoroughly and satisfactorily. It would be the duty of the Poor-law authorities and of the charitable public to provide for the maintenance of the wives and families of such phthisical patients.

Lastly, it is argued that the compulsory notification of phthisis would retard the very object which its advocates have in view, since it would alienate the public in regard to the measures of prevention which cannot succeed unless they have the support of public opinion. This is simply, it seems to me, another way of stating that the objections to the compulsory notification of phthisis are greater than the advantages which it would confer. The whole object of this communication has been to show that, under a system of compulsory notification specially adapted to phthisis, such need not, and in fact would not, be the case. I believe that if the public once thoroughly realised the *enormous* benefits which they would derive from reducing the prevalence of phthisis to the lowest possible attainable limit; if they once became convinced that without the compulsory notification of the disease it was impossible to attain this end; that the compulsory notification of phthisis was essential in order to attain this end; and that it was possible to introduce a system of compulsory notification which would work effectively and smoothly in practice; in short, if the public were once convinced that the advantages to be gained by the compulsory notification of the disease were greater than the disadvantages, hardships, &c., which it would entail, then, instead of being alienated by the proposal, they would willingly submit to the proposal and would agree, and in fact demand, that it should be put in operation. The medical profession, who are able to appreciate the subject in all its bearings and whose willing and active coöperation is essential for the success of any scheme of compulsory notification for phthisis, must be first convinced on these points; and it is with the object of trying to convince the profession, and through them the public, that the advantages of a *compulsory system of notification specially adapted to phthisis* are far greater than are the disadvantages, that these lectures have been written and are now published.

THE SIMULATION OF ACUTE PERITONITIS BY PLEURO-PNEUMONIC DISEASES.

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THIS paper deals with a class of cases in which it is most easy to mistake thoracic for abdominal disease. This deceptive likeness of two diseases is not of purely theoretical interest, for a mistaken diagnosis is often followed in such a case by an unnecessary operation. This condition, whilst well known to the older physicians, has dropped out of notice in recent years, and that is some excuse for this paper.

CASE I. *Right diaphragmatic pleurisy and pneumonia with marked abdominal signs, simulating appendicitis with peritonitis.*—This case I owe to the kindness of Dr. P. Kidd. A little girl, aged 11 years, was admitted to the medical wards of the London Hospital in 1895 complaining of pain in the head, but especially in the abdomen. Three days before admission she had severe pain down the right side of the abdomen and vomited bilious fluid several times. When she was first seen at the hospital her abdomen was rigid and especially tender in the right iliac fossa. Her bowels had not been opened for three days and her tongue was brown and dry. Her pulse was 104, full, and not easily compressed and her temperature was 103° F. The thoracic signs which at no time were very marked, were almost absent on

admission; she was, however, breathing about 40 to the minute and cut her respirations short because they hurt her in a manner characteristic of pleurisy. She had, moreover, tenderness along the attachment of the diaphragm and the veins were dilated there. By the fourth day after admission there were obscure signs at the right base of some pneumonia, the breath sounds were a little diminished, and there were a few moist râles, but these were also heard at the left base. Her temperature which had remained at about 103° fell by crisis to normal on the fourth day, but soon became irregular and for four or five weeks it frequently reached 102°. During this time the signs of pneumonia and diaphragmatic pleurisy became more distinct and at last left no doubt as to her condition, but had she been admitted to a surgical instead of a medical ward, and at the present time when so many cases of appendicitis are submitted to early operation instead of seven years ago, I cannot help thinking that her abdomen would probably have been explored.

CASE 2. *Pleuro-pneumonia of the right base; acute abdominal pain and vomiting; no lung signs; herpes labialis; empyema; recovery.*—This case I owe to the kindness of Mr. H. P. Dean and Dr. G. Schorstein. A little boy, aged 10 years, was admitted to the London Hospital in 1899 as suffering from acute peritonitis after an injury. Two days before admission he had received a blow in the lower part of the chest or in the upper part of the abdomen. On the following day, the day before admission, he was seized with severe pain in the abdomen, chiefly in the upper part, and he vomited twice. On admission, his abdomen was found to be somewhat distended, tender, and rigid all over, but especially so in the epigastric region. His bowels had been constipated since the pain commenced and an enema only gave a small result. He lay with both legs drawn up. His temperature was 99·5° F. on admission but it rose to 103° the same evening. His pulse ranged from 130 to 140 but was of good volume and strength. His respirations were 44 per minute and catchy. The examination of the thorax gave absolutely negative results. Soon after admission he developed herpes labialis and was transferred next day to the medical side. No signs had yet appeared in the thorax but on the following day there was undoubted consolidation at the right base. The temperature fell by crisis on the ninth day of the disease but seven days later it rose again and became irregular and empyema developed on the right side. This was opened and drained and he then made a good recovery.

CASE 3. *Double basal pneumonia with right diaphragmatic pleurisy in a girl the subject of a gastric ulcer; acute epigastric pain with collapse; laparotomy; death.*—This case is certainly the most perplexing one that I have yet heard of; I am indebted for it to Mr. F. S. Eve. A girl, aged 17 years, had been attending the out-patient department of the London Hospital for some months for marked anæmia and gastric ulcer. She had had once before a similar attack to the one which I am about to describe. One morning in 1899 she started for work as usual and on her way was seized in the street with violent epigastric pain and vomiting. She was brought to the hospital at once in a state of collapse. Her pulse was 120 and very thready and her temperature was 104·5° F. Her abdomen was rigid, motionless, very tender, and distended, and these signs were most marked in the epigastric region. She was admitted to the surgical wards as a case of ruptured gastric ulcer and within two hours Mr. Eve opened her abdomen. He explored the anterior and posterior surfaces of the stomach, the greater and lesser curvatures, but found no trace of gastric ulcer nor was there any peritonitis. Unfortunately ether was the anæsthetic given. Misfortunes followed fast. Her cough became so violent that a coil of intestine and some omentum escaped between the stitches and had to be washed and returned and the abdomen again sewn up. On the second day after admission it was clear that she had right basal pneumonia but her temperature had fallen to 101°. On the third day it rose again to 104° and signs of consolidation appeared at the left base and she died on the fifth day from the commencement of the attack. At the post-mortem examination double basal pneumonia and right diaphragmatic pleurisy were found and in the stomach was a shallow ulcer of the size of a sixpenny-piece which was not even near perforation. There was no peritonitis. I think that all will admit that this was an impossible case to diagnose correctly. Looking back at the case the only point which should have aroused suspicion was the temperature of 104·5° No record of the frequency of respiration was kept.

CASE 4. *A case of pyopneumothorax of the left base simulating appendicular peritonitis or left subphrenic abscess of gastric origin.*—A male Hebrew, aged 34 years, was admitted to the London Hospital under a medical colleague for "colic and peritonitis" in 1901. I was asked to give a surgical opinion on his abdominal condition. He had not been well for a year, suffering chiefly from pain and wind in the stomach after food but without vomiting. For several weeks he had also had pain in the left lower and back part of his chest with a bad cough and night sweats and wasting. He had been constipated for 12 days. When I saw him his temperature was 101° F., his pulse was about 100 and fairly strong, and his respirations were 38, his nares being vigorously dilated at each inspiration. He was a little icteric but not really jaundiced. His abdomen was rigid and very tender all over, but I could make out no local dulness or resistance and the abdominal wall relaxed between each respiration. The base of the left lung behind was dull on percussion. Vocal resonance and tactile vocal fremitus were diminished. Such breath sounds as could be heard were of a somewhat tubular character. The house physician thought that the right iliac fossa was more rigid and resistant than the rest of the abdomen. The medical registrar was of opinion that the signs indicated left subphrenic abscess due to a perforated gastric ulcer but the stomach resonance was normal and the spleen was not displaced. My medical colleague agreed with me that the signs appeared to indicate trouble above the diaphragm and arising from the lower lobe of the left lung. Ten days later it was clear that he had pyopneumothorax at the left base, probably arising from a tuberculous focus in the apex of his left lower lobe. A rib was accordingly resected and his temperature fell to normal. He put on flesh and lost all pain but a sinus persisted when he left the hospital.

CASE 5. *A case of pyopneumothorax of the right base simulating appendicular peritonitis.*—On Sept. 12th, 1901, I was called late one evening to see a man in the wards of the London Hospital who was said by my house surgeon to be suffering from "appendicitis and general peritonitis." Two days before admission the patient was running for a train on his way to work in the morning when he was seized with severe pain in the right iliac fossa. He gave up work at 1 P.M. on the same day and took to his bed. Next day his bowels were well opened by a pill and castor oil. He had no vomiting. He had never been seriously ill before. When I saw him in the wards it was clear that he was seriously ill and in great pain. His temperature was 100° F., his pulse was 80, his respirations were 43, and his tongue was furred and dry. His abdomen was hard, rigid, and tender all over, but perhaps a little more so in the right iliac fossa. It relaxed, however, between the respirations for a second and became soft and there was no marked distension or localised dulness or resistance. The heart was normal and the examination of the lungs showed nothing but a little bronchitis and emphysema. I refused to operate because whilst the abdominal signs appeared to me at least doubtful the respirations—43 a minute, with a pulse of only 80—appeared to indicate that the lungs were the source of the trouble. The thing, however, which really decided me not to operate was that I did not think that he could safely take an anæsthetic. I carefully examined him again on the next day with a medical colleague. The abdominal signs had disappeared almost entirely and dulness at the right base with diminished breath-sounds and tactile vocal fremitus, the presence of a pleural rub, and the absence of tubular breathing left no doubt that he had right basal pleurisy. Eight days later the signs at the right base had much increased and pus was found by an exploring needle. A rib was resected and 24 ounces of pus with air were evacuated. The condition was then found to be one of pyopneumothorax. I saw him once again in February, 1902. He had been attending the out-patient department for a sinus left by the empyema. An energetic dresser had syringed out his cavity with some anti-septic and had nearly choked him by the passage of the fluid through the orifice in the lung into the trachea.

CASE 6. *Traumatic left pleurisy with abdominal signs; laparotomy.*—A labourer, aged 38 years, was admitted to the London Hospital under my care in February, 1901, giving the following history. He was assisting to unload deal planks from a barge when one of the planks swung round suddenly whilst hanging from the crane and struck him violently over the lower left ribs, precipitating him 12 feet into the barge where he alighted on the back

of his head. He was slightly concussed and had a scalp wound in the occipital region. He soon recovered from the shock of the fall and the only sign of the injury which could be made out was a fracture of two of his left lower ribs, probably the ninth and tenth, but he was so muscular a man and the part was so tender that the exact ribs broken could not be determined. Within 12 hours of admission a pleuritic rub was heard in the region of the broken ribs. On the next day acute abdominal signs appeared. He complained of violent abdominal pain which was worse down the left side of the abdomen. His abdomen was rigid all over but especially in the left hypochondrium and lumbar regions; the abdominal wall, however, still moved on respiration. Ill-defined dulness was found down the left side and this was thought to be due to blood in the peritoneum. He vomited continuously and the vomitus soon became bilious. His bowels had not been opened since he was admitted and an enema of one and a half pints of soap-and-water was given. This was retained. Retention of urine which had been present since admission persisted. His temperature was 99° F. and his pulse was 75 and of good volume. A diagnosis of laceration of the spleen with recurrent hæmorrhage was made, and laparotomy was decided upon. I must admit that this diagnosis was largely due to the fact that within a fortnight a very similar case had been admitted to the same ward and did not develop any marked abdominal signs until the fifth day when the patient was to have left the hospital. On that day he collapsed and his abdomen became distended and much free fluid was discovered. Laparotomy was performed and the spleen was found to be torn nearly in two. He died from hæmorrhage on the table whilst the clots were being displaced to find the pedicle. The abdomen in the present case was opened in the left linea semilunaris and the abdominal contents were found to be absolutely normal. The dulness was explained by the enormous muscular development of the abdominal wall, which was so great that the recti and lateral abdominal masses projected into the peritoneum as rounded masses, which were at first thought to be hæmatomata. The great muscular development of the abdominal wall was apparently due to the man being by trade a deal-runner. Some idea of the spasm may be gained by the fact that strand after strand of ordinary silkworm gut snapped without drawing the edges of the incision together, and finally the stoutest silk had to be employed and the anæsthetic vigorously pushed before the abdominal wound was closed. The wound healed by first intention and the patient made an uninterrupted recovery.

Andral[1] appears to have recognised this condition clearly in 1836 and in his book narrates several typical cases. Watson,[2] in his admirable text-book of medicine, quotes Andral and refers to cases of his own in which pleurisy at the right base simulated hepatitis, but he does not appear to have recognised the possibility of confusing diaphragmatic pleurisy with acute peritonitis. Fagge knew the condition well. In his text-book he says: "In exceptional cases the pain is referred to the terminal branches of the intercostal nerves; to the hypochondrium, so as to lead to a mistaken diagnosis of hepatitis; to the loins, so that the case has been called one of lumbago; or to the neighbourhood of the umbilicus, so that peritonitis has been suspected"; and in a note he adds: "I have myself had a patient whose sole complaint was of pain in the crista ilii. I feel sure that if it had not happened that a short time before my attention had been specially directed to this question I should have failed to discover that he had pleurisy, although on applying my stethoscope I at once heard a rub.—C. H. F."[3] Modern medical writers for the most part are vague in their reference to this class of case and many do not even refer to them at all. The condition is altogether unknown to surgeons if we judge from their text-books, and this is all the more unfortunate as it is they who will open the abdomen of the pleuritic patient should they be ignorant of this condition after they have caused ether to be administered. My excuse for this paper is to call attention to a pitfall in surgery into which, as may be seen here, I have fallen myself.[4]

The thoracic diseases which can give rise to such severe abdominal signs as to simulate peritonitis are all situated in the lower part of the chest, either in the base of the lung or the adjacent pleura—diaphragmatic or parietal. Three of my cases were those of pleuro-pneumonia of the base of the lung, involving the diaphragm. Two were cases in which apparently a tuberculous focus in the apex of the lower lobe ruptured into the pleural cavity, producing pyo-pneumothorax. One case was most interesting in that the pleurisy was traumatic, due to a localised injury and associated with broken ribs; it was recognised and yet the abdomen was opened, so definite were the abdominal signs.

The abdominal signs and symptoms which may arise in such conditions are conveniently divided into parietal and visceral.

Parietal.—The abdominal wall is acutely tender and painful. The tenderness often extends over the whole abdomen, but in some cases it is unilateral; it may be present only above or below or be more intense in these situations. It will readily be seen that such acute abdominal pain and hyperæsthesia in the right hypochondrium may be mistaken for hepatic and biliary diseases, whilst in the right iliac region an appendicitis would at once suggest itself and in the epigastrium a perforated gastric ulcer. The abdominal muscles are, moreover, in spasm so that the abdominal wall is board-like and hard. So great is this spasm that the deepest anæsthesia is necessary to relax it and the pupils will be widely dilated before the abdomen becomes soft. This has practical application, for if the intestines are allowed to escape they will be returned to the abdomen with the greatest difficulty and the surgeon will find that the stoutest silk alone will stand the strain necessary to close the wound. The respiration is of the costal type, but it will be found on placing the hand upon the abdominal wall that this relaxes for a moment at each inspiration, and this is an important diagnostic sign. Writers on diaphragmatic pleurisy insist on the importance of unilateral exaggeration of costal respiration on the side of the chest affected.

Visceral.—The visceral signs are distributed along the whole length of the alimentary canal. Gastric disturbance leads to nausea, hiccough, and vomiting which may be urgent and become bilious. The intestines are apparently more or less paralysed, so that the abdomen becomes distended, and this, with the tenderness and spasm of the abdominal wall already referred to, produces a most deceptive resemblance to peritonitis. Constipation is nearly always present and enemas may be retained, so that apparently the rectum has lost its irritability. Even the profound vascular changes which we are in the habit of associating with severe lesion in the splanchnic area are frequently present, at least at the onset of the attack, although it must be admitted that they do not often persist or become more severe as the disease develops.

The patient is often collapsed at the onset of the pain. The extremities are cold and beads of sweat may break out on the forehead, whilst the features are pale and pinched, but in none of my cases did I see the rings round the eyes or the dry shrivelled tongue which one associates with general suppurative peritonitis.

DIAGNOSIS.

The diagnosis is nearly always easy if suspicion is aroused and the surgeon is aware of this deceptive condition. The chief points to be observed are the rapidity of the respiration, often 40 a minute or more, which is out of all proportion to the pulse-rate, which is seldom so frequent as 100 a minute and is not weak or wiry. The respirations will often exhibit the curious catch at the top of inspiration which is characteristic of pleurisy. The abdominal tenderness is, moreover, found to be chiefly superficial and firm deep pressure with the flat hand may be permitted. It will then be found that the abdominal wall becomes soft for a moment at each inspiration which is not the case in acute peritonitis. The absence of rings round the eyes and a temperature of about 103° should also make one hesitate to diagnose a serious and general peritoneal infection. When once a suspicion has dawned on the mind of the surgeon the patient is comparatively safe, for an examination of the suspected side of the thorax will reveal some dulness or friction sound or some excess of costal movement on that side over the other which will lead him to pause and perhaps to consult his medical colleague; but it must be frankly admitted that direct thoracic signs are often almost entirely lacking for 24 hours or more.

The great "danger," after all, appears to arise from an

[1] Andral, translated by D. Spillane, 1836.

[2] Sir Thomas Watson: Principles and Practice of Physic, fifth edition, 1871.

[3] Hilton Fagge: Principles and Practice of Medicine, third edition, vol. i., p. 1026.

[4] Since this paper was read at the Clinical Society on April 11th, 1902, a paper has appeared on the Simulation of Appendicitis by Acute Intra-thoracic Disease by Dr. Maurice H. Richardson, Boston Medical and Surgical Journal, April 17th, 1902.

auto-suggestion by the patient's surroundings and the circumstances under which he is first seen. The surgeon is summoned by his house surgeon, perhaps in the dead of night, to see a case of "acute peritonitis probably of appendix or gastric ulcer origin." He goes to his well-known ward, where he has seen series of cases of every phase of abdominal disease but seldom or never pleurisy or pneumonia. There he finds a patient suffering from acute abdominal pain, perhaps vomiting, and the house surgeon tells him that the patient has retained an enema. The pain the patient is in, and perhaps his cries when he is being examined, disturbing the whole ward as they do at night, prevent a complete examination. It may be that the surgeon is not quite satisfied that the signs undoubtedly indicate general peritonitis, but his clinical experience at once reminds him how vague the signs of general peritonitis may be; of the case of ruptured liver or spleen in which the signs were so vague for three or four days that operation was postponed until too late; or of that case of ruptured gut which for two days was supposed to be abdominal contusions. In such circumstances it is really not surprising that patients exhibiting the signs which I have mentioned are sometimes operated on. This is an accident always to be deplored, for very frequently ether is administered and this adds bronchitis to the pre-existing lung condition, whilst an extensive abdominal incision seriously hinders coughing. The only guard against such deplorable accidents is to recognise the possibility of their occurrence, and that is my excuse for this paper and the record of these cases.

PATHOLOGY.

The pathology is one of referred pain and divides itself into three heads.

1. *Irritation in continuity* of the lower six dorsal nerves will explain the hyperæsthesia and spasm of the abdominal wall. These intercostal nerves supply the diaphragm and lower part of the pleura and here their branches, if not their trunks, will be irritated by an acute inflammatory process. The terminations of the seventh to the eleventh dorsal nerves pass to the abdominal wall and supply the skin and muscles there. If the seventh, eighth, and ninth nerves are chiefly affected the acute epigastric tenderness and spasm will closely simulate a perforated gastric ulcer or if chiefly hypochondriac and on the right side hepatitis or gall-bladder trouble. When the tenth dorsal nerve is mainly affected the pain is referred to the umbilicus, as it is in so many abdominal complaints, whilst the area of the tenth and eleventh dorsal nerves on the right side is that in which the signs of an acute appendicitis develop. Moreover, the presence of tenderness and spasm on the left side in the tenth and eleventh dorsal areas does not exclude appendicitis, for in the early stage of this affection the pain may be referred to that side. It is interesting to note that three of my six cases terminated in suppuration. This seems to indicate that the inflammation in order to produce such abdominal signs must be severe enough to penetrate to the nerve trunks themselves and to produce actual neuritis

2. *Referred visceral pain* has been most exhaustively studied by my colleague Dr. Henry Head[3] and it will explain referred abdominal pain from lung disease without pleurisy. The seventh, eighth, and ninth dorsal rami communicantes are those which supply the lungs. When broncho-pneumonia, phthisis, or bronchitis but not lobar pneumonia supervene, even without pleurisy, impulses may pass up to the posterior root ganglia of these nerves and there produce such changes that normal impulses passing through these ganglia from the terminal branches of the nerves in the epigastrium and upper abdominal wall are exalted into painful impressions. The spasm follows in a reflex manner from the pain. Dr. Head tells me that he has seen such cases but none of those related here are explicable on this pathology.

3. *Of the pathology of the visceral signs* to which I have referred, gastric, intestinal, rectal, and vascular, we know very little. Perhaps they are the result of a reflex in the reverse direction to that to which I have just alluded, so that irritation of the six lower intercostal nerves by a pleurisy produces disturbance in the distribution of the three splanchnic nerves which are derived from the same level of the spinal cord. On the other hand, it may be due to irritation of these nerves in continuity as they lie beneath the pleura or pass through the diaphragm to the great sympathetic plexures and ganglia of the abdomen.

Welbeck-street, W.

[3] Herpes Zoster, Brain, 1900; Referred Visceral Pain of Heart and Lungs, Brain, 1896.

A CASE OF RECOVERY FROM MEMBRANOUS GASTRITIS.

BY OTTO GRÜNBAUM, M.B. CANTAB., M.R.C.P. LOND.

MEMBRANOUS gastritis is a condition characterised by an exudation from the epithelial lining of the stomach leading to the formation of a false membrane over the whole or part of that viscus. The symptoms of the disease are extremely variable. Thirst is often distressing, occasionally vomiting is uncontrollable, and pain in the stomach may be considerable, but cases have been recorded in which no symptoms have existed. The pathognomonic sign is the vomiting of a cast of the stomach or shreds of croupous membrane, but owing to the rarity of the presence of this sign, along with the fact that this form of gastritis usually occurs as secondary to a grave disease which averts attention from the gastric symptoms, the condition is not frequently diagnosed during life. In membranous gastritis the cast consists of fibrin and blood cells only, while in phlegmonous inflammation of the stomach the necrosed mucosa is shed. This difference is not strictly adhered to in the literature on the subject.

As to the rarity of the disease authorities agree but they differ in their experiences as to the most frequent causes. Rokitansky[1] states: "Croupy inflammation of the stomach never occurs as a primary and substantive affection except in the shape of delicate flocculent exudations in the aphthous processes of children, but always, and then rarely as a sequela or degeneration of exanthematic processes, in variola, in typhus, in the absorption of pus into the circulation, and particularly in puerperal inflammation of the uterine veins." Delafield[2] saw a man, aged 46 years, suffering from this disease and termed the condition idiopathic, because no cause was assignable. This author recognises that membranous gastritis is usually secondary to typhus fever, pyæmia, puerperal fever, cholera, dysentery, and irritating poisons. Von Ziemssen[3] suggests that the condition may arise from the membrane in diphtheria spreading down the œsophagus into the stomach, while Ziegler[4] writes that croupous and diphtheric inflammations of the stomach are rare. They occur most frequently in typhus fever, cholera, measles, scarlet fever, small-pox, pulmonary tuberculosis, and pyæmia. In diphtheria, on the other hand, they are extremely rare. Wilks,[5] Fox,[6] Kundrat,[7] Goodhart,[8] Rotch,[9] and several others describe the condition but add little to the above summaries. Recklinghausen[10] saw one case complicating gangrenous pneumonia. Goodhart and Still record that they have seen "membrane scattered over the surface of the stomach, mostly on the top of the rugæ and accompanied by intense congestion of the mucous membrane, in a case of severe broncho-pneumonia where there was no evidence of diphtheria. The condition was associated with membranous colitis." Osler[11] found an extensive area of croupous inflammation represented by a thick adherent greyish-white exudate covering an area 12 by 8 centimetres in one of his series of 100 cases which died from pneumonia. Quite recently Foulerton[12] described a case of membranous gastritis from which he was able to isolate pneumococci. Bizzozero[13] saw two cases during the epidemic of diphtheria at Milan in 1875. The presence of the membrane in the stomach was not suspected during life and caused surprise at the necropsy. Six cases of the disease are described by Smirnow,[14]

[1] Handbuch der Pathologischen Anatomie, Band ii.
[2] Delafield and Prudden: Pathological Anatomy, p. 549.
[3] Von Ziemssen's Handbuch, Band vii. (1), p. 52.
[4] Lehrbuch der Pathologischen Anatomie, 1898, Band ii., p. 503.
[5] Wilks and Moxon: Pathological Anatomy, 1875, p. 399.
[6] Diseases of the Stomach, 1872.
[7] Gerhardt's Handbuch der Kinderkrankheiten, Band iv.
[8] Diseases of Children, 1899.
[9] Pediatrics, p. 856.
[10] Virchow's Archiv, vol. xxx., p. 366.
[11] Transactions of the Pathological Society of Philadelphia, 1885, vol. xii., p. 188.
[12] Pathological Society of London, 1902.
[13] Medicinisches Jahrbuch, 1877, p. 219.
[14] Virchow's Archiv, Band cxiii., p. 333.

who, however, considered that only two of them were due to diphtheria, because in that number only was necrosis of the gastric mucous membrane evident; prior to the discovery of the Klebs-Löffler bacillus necrosis was considered a *sine quâ non* of the diphtheritic process and the absence of necrosis prevented the condition being termed diphtheritic. Talfourd Jones[13] saw a case of exudative gastritis in 1862; his patient was a rachitic child who developed a membrane in its stomach so similar to that which normally appears in the throat in diphtheria that the diagnosis of gastric diphtheria was made. Wollstein[14] reports with great detail and many references two cases, in neither of which any evidence of diphtheria bacilli in the membrane was obtainable. One of the cases was a child suffering from advanced pulmonary tuberculosis, while the other had a false membrane on the inner side of the thyroid cartilage; micrococci were found in the membranes, but no Klebs-Löffler bacilli. The only case so far recorded in which a complete cast of the stomach was vomited is that by J. Thomson.[17] The diagnosis of acute pulmonary tuberculosis was confirmed at the necropsy and no evidence of other disease was found. Two cases of undoubted diphtheritic gastritis came under the care of T. Leary[18]; in one there was membrane in the throat and in the other upon the conjunctiva. From the stomach of the former the bacillus of diphtheria was isolated. Willett[19] recorded a case of diphtheritic membranous gastritis in a child, one and a half years old, who had died from pharyngeal diphtheria. No membrane was found in the œsophagus nor did the exudation extend beyond the pylorus. W. S. Fenwick[20] described a case of diphtheria of the stomach in a child three years of age; there was no pharyngeal membrane but "the respiratory tract was lined by diphtheritic membrane from the larynx to the finest ramifications of the bronchial tubes. The lower lobe of the left lung was solid from broncho-pneumonia." This membrane was found to swarm with micrococci but no diphtheria bacilli were found. This author points out that the vomit ejected by his patient did not contain hydrochloric acid and Rolleston suggests that the rarity of a gastric false membrane may be due to the solvent action of the gastric secretion.

That it is rare to find a false membrane in the stomach even when it exists on many other mucous surfaces is well illustrated by the papers of Villy and of Cary and Lyon. Villy[21] examined the gastric mucosa of a large number of patients who died from diphtheria after having had well-marked gastric symptoms. The mucous membrane was often invaded by leucocytes and hyperæmic, but in no case did he find a definite false membrane. Cary and Lyon[22] review the literature of pseudo-membranous inflammation of the mucous membrane caused by the pneumococcus and they find only one case in which the membrane was seen in the stomach. Without criticising the probable accuracy of the diagnosis in the above cases they may be classified. 19 cases are recorded—eight are ascribed to diphtheria, four to pneumonia, and two as sequelæ to pulmonary tuberculosis. I cannot help thinking that the cases of membranous gastritis which are stated to have followed variola, pyæmia, &c., were phlegmonous rather than pseudo-membranous gastritis.

The patient whose case I am about to describe was a healthy-looking girl, aged three years, of a rachitic type. Her father was consumptive but no further history of the disease was obtainable. She had been rickety since she was 14 months old and was subject to the complaints which accompany that disorder. Her present illness commenced on Feb. 8th, 1902, when the child was irritable and gave her relatives the impression that she was sickening for some disease; prior to this she had had a cold for a week. Towards midnight she awoke and complained of a sharp pain in the left ear, passing down the neck on the same side, and also of a slight stomach-ache. Judging from the spells of crying the pain in the head seemed to become more intense two or three times during the hour; between midnight and 6 A.M. the patient vomited four times without, as far as one could tell, any preceding nausea. During the following day the patient played and seemed to be well until 5 P.M., when she became fretful, and four hours later the pain in the ear returned, accompanied by vomiting. The child lay upon her left side; she was sensible and was irritable on being disturbed. Both cheeks were flushed. There was slight tenderness over the left mastoid region but not sufficient to prevent the child from lying on that side. There was no nystagmus, strabismus, or paralysis of any muscles.

In regard to the respiratory system a detailed examination of the lungs did not reveal any signs of disease. The condition of the circulatory system was as follows. The apex beat of the heart was behind the fifth rib one-third of an inch internal to the nipple line. The heart was beating rapidly (128 per minute) but the sounds were clear and did not suggest any cardiac lesion. The pulse was regular, of normal volume, and about 100 mm. Hg pressure. The temperature was 97·8° F. The abdomen was rather full and of a rachitic type. There was no tenderness or resistance in any part. The spleen could not be felt below the costal margin nor did percussion lead to the conclusion that there was any enlargement of that organ. The lips were of good colour and the tongue was moist and thinly but evenly coated. The breath was slightly foul. The tonsils and fauces were hyperæmic but no trace of a membrane was visible in any part of the throat. The vomit consisted of glairy mucus, free from bile and blood. The bowels were slightly costive but with that exception the motions were normal. In regard to the nervous system the knee-jerks could not be obtained on either side. Although all the superficial and deep reflexes were examined no other alteration from the normal was found. The urine contained a trace of albumin. The blood was examined on Feb. 10th with the following results: red cells, 4,480,000; and white cells, 8700 per cubic millimetre. A differential count showed: polymorphonuclear cells, 43·1 per cent.; lymphocytes, 48·5 per cent.; mononuclear cells (large), 7·9 per cent.; and eosinophile cells, 0·5 per cent.

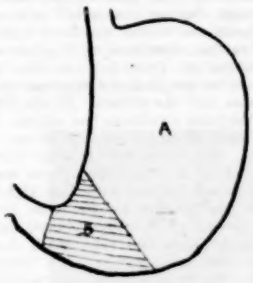
The child complained of great thirst and since vomiting followed even small doses of water by the mouth rectal feeding was adopted. On Feb. 10th the temperature and pulse remained unaltered. Vomiting occurred repeatedly during the day but the thirst seemed to have been relieved by the rectal injections. In the evening the child again complained bitterly of thirst and was given a few teaspoonfuls of water, shortly after which she cried out with gastric pain and then vomited a piece of membrane, the nature of which will be described later. Occasional vomiting continued during the night, accompanied by slight abdominal pain. About 3.30 on the following afternoon, after considerable pain and retching, another piece of membrane was vomited and this along with the former piece seemed to be a complete cast of the stomach. The vomiting from this time onward became less frequent, while the condition in other respects remained unaltered. On the 12th, with a pulse of 128 and a temperature varying between 97° and 98° F., the patient gave the impression of improving, the tongue being slightly cleaner and the vomiting less frequent. Knee-jerks could not be obtained. On Feb. 14th the pulse was 132 and the temperature was 97·4°. The patient slept well during the night but was drowsy in the morning. A trace of albumin was present in the urine. During the day the child expressed a desire for food. On the 16th the pulse was 116. The child had not vomited for 24 hours. The heart sounds were weaker and the rhythm rather embryonic. The desire for food was more marked. On the 17th the pulse was 112 but very weak. One ounce of peptonised milk mixed with three times that quantity of water was given by the mouth and was retained. The patient was improving on the 18th. Milk and beef-juice were digested. From this time onwards the patient steadily improved and *pari passu* with larger quantities of food being taken by the mouth the rectal injections were diminished in volume and frequency. The right knee-jerk returned on March 6th and the left on the day following. The child has been perfectly well for several months.

Diagnosis.—That the case was one of membranous gastritis was placed beyond doubt by the shape and nature of the cast vomited. The cause of the exudation had to be considered. The temperature was subnormal, the pulse was rapid, there was slight albuminuria accompanied by the loss of knee-jerks, and a normal number of white cells in the blood. These are all compatible with diphtheria. A swab of the back of the throat was taken on Feb. 10th but no

[13] Brit. Med. Jour., 1889, vol. i., p. 880.
[14] Archives of Pediatrics, vol. ix., p. 489.
[17] Ibid., vol. xii., p. 286.
[18] Journal of the Boston Society of Medical Science, 1897, No. 16, p. 8.
[19] Transactions of the Pathological Society of London, 1892, vol. xliii., p. 62.
[20] Ibid., 1894, vol. xlv., p. 60.
[21] Medical Chronicle, 1899, p. 391.
[22] Transactions of the Association of American Physicians, 1901, p. 379.

suspicious bacilli were found either in a stained film or by culture on blood serum. I regret that no cultures or inoculations were made from the vomited membrane. Microscopically I failed to find in it any bacilli which resembled Klebs-Löffler bacilli. In toxæmia of diphtheritic origin it is not rare for the heart's action to be altered in rate and rhythm without the temperature of the body being greatly elevated. The temporary albuminuria and loss of knee-jerks make one doubt whether croupous gastritis would have been the correct diagnosis. The subnormal temperature along with an absence of leucocytosis both make it improbable that the membrane was of pneumonic origin. The examination of the blood did not add to the data upon which diagnosis was based. Although a marked leucocytosis as a rule accompanies diphtheria it is not invariably the case. The differential count of the white cells is not far from normal; the child was three and a half years old, at which age normally the polymorphonuclear and mononuclear elements of the blood are present in equal numbers. There is a tendency in rachitis, as in all conditions of malnutrition, for the lymphocytes to be relatively increased, and this may have been responsible for the high percentage of mononuclear cells. It is scarcely necessary to add that full investigation as to the possibility of the gastritis being due to an irritant introduced through the mouth was made, with a negative result. The piece of membrane vomited on Feb. 10th was of a shape and size that suggested a cast of the greater part of the stomach, including the cardiac opening; the pyloric end was missing, but the tissue ejected on the following day completed the cast (Fig. 1). The thickness of the membrane varied in different

FIG. 1.



A was vomited on Feb. 10th. B was vomited on Feb. 11th.

parts, but in no place did this exceed one millimetre. It was of a pinkish-grey colour coursed by red streaks; when examined in water it assumed a rugous aspect (Fig. 2). Microscopically it consisted of a fine network of fibrin, the meshes of which contained large numbers of white and red blood-corpuscles, the former being in excess. Epithelial elements were totally absent (Fig. 3). Sections stained with Löffler's blue and by Gram's method show the presence of some number of micrococci, mostly arranged in pairs, but only very few are of the shape that suggests the diplococci of pneumonia. No bacilli resembling diphtheria bacilli have been seen in the membrane. The micro-organisms are most numerous on the side which was in contact with the gastric mucosa. The outer side of the cast is ragged; the fibrin has been dissolved by the gastric secretion which probably led to the separation of the exudation from the epithelium. It is of interest to note that the false membrane covering the pyloric end was the last to be shed, as one would have expected from the fact that the glands at that end of the stomach do not secrete so much hydrochloric acid.

Treatment.—Until the cast of the stomach was vomited the diagnosis of exudative gastritis was not considered, but the continued vomiting necessitated the adoption of rectal feeding. Although the possibility of the diphtheritic origin of the disease was raised immediately upon the ejection of the membrane, nevertheless it was decided not to use diphtheria antitoxin. The advantage of the use of antitoxin on the fourth day of the disease is questionable, and in a case which has already shed its membrane without that membrane possessing evidence of diphtheria it did not seem justifiable. This decision was fortunate, for if an injection of antitoxin had been given it would not have been easy to fully realise that the recovery was purely *post hoc* and not *propter hoc*. An attempt was made to maintain strength by

FIG. 2.

The membrane floated out in water showing the rugous appearance.

FIG. 3.

Section of cast prepared with a nuclear stain showing altered blood corpuscles in a fibrin network. The upper surface was the inner side of the cast.

giving a rational rectal diet. The form of nutrient selected consisted of 60 cubic centimetres (two ounces) of ox serum, 60 cubic centimetres of milk, and eight grammes (two drachms) of raw starch every four hours. Three grammes of chloretone were dissolved in every litre of serum. This had

a triple effect: it preserved the serum, it acted as a sedative to the mucous membrane of the rectum, and it also caused the child to sleep for an hour or two after the administration of the injection, thus facilitating its retention and hence its assimilation. 360 cubic centimetres of serum, 360 cubic centimetres of milk, and 48 grammes of carbohydrate were introduced during the 24 hours, which diet possesses an energy value of over 500 calories, which is not much short of three-quarters of what is necessary for a child three and a half years of age. When the pulse became feeble and the heart sounds assumed an embryonic type a few minims of tincture of nux vomica and of digitalis were added to the nutrient enemata. The efficiency of a rational rectal diet containing materials which we know can be absorbed by the large intestine was proved by the very slight loss in weight of the patient in spite of no food being given by the mouth for 10 days.

To Dr. H. D. Rolleston I am indebted for kindly criticism in writing out the case and for assistance in the recent literature of the subject. Mr. Robert MacQueen was good enough to take daily notes of the case and to draw two of the diagrams, and without his able assistance it would have been impossible for me to have recorded the case.

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PURPURA FULMINANS FOLLOWING SCARLET FEVER.

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THE diagnosis of the exceedingly rare condition from which the patient whose case is narrated below suffered is not by any means clear. It seems to me to correspond more closely to the condition which is described by Henoch under the name of purpura fulminans than to any other with which I am acquainted. It is noticeable, too, that one of the two cases related by him occurred after scarlet fever, as did also one of two cases related by Ström and Arctander. Now, hæmorrhagic scarlet fever, as described in some works, is of great rarity in this country at the present time; it is doubtful, indeed, if extensive cutaneous and subcutaneous hæmorrhages ever occur in the early stages of the disease; whether the cases related in those works, in fact, were not actually cases of hæmorrhagic diphtheria. Hæmorrhages into the skin and subcutaneous tissue are met with not very infrequently in association with obstinate suppurative lesions after scarlet fever, such as chronic suppurative lymphadenitis, suppurations in joints, and suppurations in and about the temporal bone. No such lesion obtained in this case. The child had a very severe attack of scarlet fever which did not present any unusual features and convalescence appeared to be established. He still had some ulceration of the soft palate, it is true, but the other symptoms had either passed off or had much abated, the temperature was settling down, and he was bright and comfortable. At this point cutaneous hæmorrhages in enormous abundance took place, accompanied by hæmatemesis, bloody stools, and oozing from the gums. In 36 hours from the appearance of the first hæmorrhages he was dead. The chief feature of the post-mortem examination was the state of the kidneys. These were transformed almost entirely into fat, a little blood-clot being found in the calices. This blood-clot, too, must have been very recent, as none was found lower down the urinary tract, even the urine in the bladder being free from blood. The kidney was a very different one from that associated with any variety of scarlet fever and no sign or symptom of nephritis occurred during life, except that albumin in small quantity was present in the urine for one day soon after admission. The change would appear to have been far more of the nature of an acute degeneration than of an inflammation, the homogeneity of the condition being very different from the sectional infiltrations seen in either the septic or glomerular type of scarlatinal kidney. No renal phenomena were noted by Henoch in the necropsies of his cases and Ström and Arctander do not state whether post-mortem examinations were made in their cases.

The sudden occurrence of these widespread hæmorrhages suggests a very acute toxæmia or blood infection due to the elaboration of some toxic substance or the supervention of some fresh organism, but what the nature of such body may have been and what determined its appearance at this period of the disease are speculations beyond the range of legitimate theorisation. A conceivable criticism is that these abundant hæmorrhages were but an advanced stage of the punctiform hæmorrhagic rash that occasionally follows the administration of animal sera, for diphtheria antitoxic serum had been given to this child in error. That this should be so is in the highest degree improbable, for not only has such an occurrence never been noted after the many thousand administrations that have come within one's purview, but this particular serum was used for injection into many children in the hospital without any analogous phenomena ensuing.

The clinical and pathological features of the case may be briefly summarised as follows:

A boy, aged three and a half years, was admitted into the Grove Fever Hospital on May 16th, 1902, certified to be suffering from diphtheria and on this supposition was given an injection of serum containing 24,000 units of diphtheria antitoxin. On examination, however, his trunk and limbs were found to be covered with a coarse, blotchy, punctiform erythematous rash; the throat was much reddened and very œdematous; the tonsils were coated with slimy exudation; the nasal mucous membrane was turgid and covered with muco-purulent discharge; the submaxillary lymphatic glands were considerably enlarged; and the tongue was dry and clothed with fur. Culture of the tonsillar exudation presented an abundant growth of streptococci. He was very ill till the 21st, when the temperature, which had been continuous at 103° F., fell to 99°, and there was a general abatement of the symptoms. On that evening he became more feverish (the temperature being 102·4°), and on the next day an urticarial rash appeared on the trunk, due doubtless to the previous injection of serum. Double otitis media, diarrhœa with green stools, and free general desquamation ensued. On the 25th a further eruption, a macular, purplish-red one, was noticed about the knees, the ankles, and the elbows. By the 29th he was much better; the glandular swellings had almost disappeared and there was no rash or diarrhœa. Bilateral otorrhœa, however, remained, and there was a little rhinitis, whilst an ulcer of the size of a threepenny-piece was found at the junction of the soft palate and the right anterior pillar of the fauces, though the tonsils were free from exudation and the tissues of the throat were but little swollen. From this time he improved rapidly till June 4th, notwithstanding that the temperature still fluctuated between 101° and 99°. On that day a vast number of pin-point hæmorrhages were seen in the skin of both sides of the trunk, whilst the next morning the trunk and limbs were literally covered with these points, the upper extremities being so densely set with them as to appear almost uniformly purple. There were but few on the face, except on the inner sides of the eyelids where they were about the size of grape-stones. Blood oozed from the gums, but there were no subcutaneous or subconjunctival hæmorrhages. His general condition was markedly worse. He vomited half a pint of red blood twice during the day and towards the evening he passed about that quantity of brightish-red blood per rectum. He died soon afterwards.

Necropsy.—At the post-mortem examination, which was performed 30 hours after death, the cutaneous hæmorrhages were abundantly apparent and blood-clot encrusted the lips, the nose, and the anus. Under the visceral pericardium and pleuræ a few punctiform hæmorrhages were seen, similar points being present under the endocardium of the left ventricle. The pleuræ each contained a few drachms of clear, pink fluid and the trachea and bronchi similarly-tinted frothy mucus. The stomach showed many medium-sized, submucous hæmorrhages, and both it and the intestines, which latter were deeply cyanosed, contained chocolate-coloured fluid; crimson, viscous blood filled the rectum. Beyond thickening and ulceration of the tissues of the throat nothing else remarkable was seen till the urinary system was examined. Both kidneys were a little enlarged, but their capsules stripped readily. On section the parenchyma was found to be transformed almost entirely into fat, which stained readily with osmic acid but not at all with iodine solution. There was no differentiation into cortex and medulla and a few faint pink streaks alone suggested the direction of the tubules. Several of the calices contained a

little blood-clot but none was found in the pelves or ureters. The bladder was distended with clear, yellow urine, which gave no hæmoglobin reaction when tested with tincture of guaiacum and ozonic ether.

I am indebted to Dr. J. E. Beggs, medical superintendent, for permission to publish this case.

Tooting, S.W.

SOME ADDITIONAL REMARKS ON THE ETIOLOGY AND DIAGNOSIS OF ACUTE DILATATION OF THE STOMACH.

BY H. CAMPBELL THOMSON, M.D., F.R.C.P. LOND.,
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IN my recently published book on the subject of acute dilatation of the stomach I have discussed at some length the different theories which have been put forward to account for the disease, and while in no way denying that some cases may be obstructive in origin I inclined to the belief that a primary paralysis of the organ must be regarded as the underlying cause in the majority of the cases. Those who support the theory that obstruction is the main cause consider that under certain conditions within the abdomen the superior mesenteric artery may exercise a constricting force upon the duodenum, and the conditions necessary thus to produce this constriction are thought to be fulfilled by the displacement of collapsed intestine into the pelvis by which such a tension is put upon the mesentery that the cord-like superior mesenteric artery becomes converted into a constricting band and obliterates the lumen of the duodenum. There are many arguments against this theory which I have discussed elsewhere and need not again refer to here, but the main objection to the adoption of this view lies in the fact that the point at which distended bowel passes into collapsed bowel varies in different cases which it obviously would not do if the situation of the constricting force were a constant one as it would be in the case of the superior mesenteric artery. I quoted cases in my book showing that sometimes only the first part of the duodenum shared in the dilatation while in others the distension extended some inches along the jejunum. More recently I have had an opportunity of making a necropsy upon a case in which acute dilatation of the stomach was accompanied by distension of eight feet of small intestine, the distension passing abruptly into collapsed bowel at that point. The appearance of the distended stomach and upper coils of intestine is shown in the accompanying figure which is reproduced from a photograph taken at the time of the necropsy, and it is obvious that in this case the superior mesenteric artery cannot be considered as the constricting force nor were there any signs of any other constricting force having been present.

In the absence of any constriction a primary paralytic condition would seem to give an adequate explanation of this case, as it does in so many others, and, as I have before pointed out, there is no obvious reason why, if a primary paralysis is assumed to take place in the stomach, we should suppose that paralysis to be necessarily limited to the stomach. The nervous connexions between the vagi and abdominal plexuses are very complex, and it seems reasonable to suppose that the paralysis which involves the stomach may in different cases extend variable distances along the intestine and such variable extension would adequately explain the fact that the distended bowel terminates at different levels. Reference in my former writings will also be found to the probable relationship between acute dilatation of the stomach and the paralytic distension of the intestines which occurs during cases of acute peritonitis. It is, of course, common, and indeed usual, to find the intestines distended in cases of peritonitis and there can be little doubt that the distension is due to paralysis of the gut walls consequent to the inflammation of the peritoneum. While in these cases distension of the intestine is usually the predominating feature, both during life and after death, the necropsy often shows that the stomach has also to some extent participated in the condition and occasionally the gastric symptoms form the most prominent feature of the case and may for the time even mask all the symptoms of the underlying peritonitis. This fact assumes considerable importance when it is remembered that peritonitis is the condition which clinically most closely resembles acute dilatation of the stomach and for which many primary cases of the latter have been mistaken. We have thus in every case in which symptoms of acute dilatation of the stomach occur after an abdominal operation, or under other conditions in which peritonitis would be likely to arise, to decide whether the dilatation is a primary condition or whether it is only the predominating feature of a general peritonitis. A case which I recently had an opportunity of seeing with Dr. Comyns Berkeley well illustrates this condition and also the difficulty which one may have in arriving at a correct diagnosis when there is a possibility of peritonitis co-existing, although there may be no obvious reasons which would lead one to suspect its presence.

Acute dilatation of the stomach and upper eight feet of intestine.

The patient was a female, aged 32 years, and had previously had five children. She had passed uneventfully

through a sixth pregnancy and on the evening of Jan. 5th, 1902, intermittent pains came on and it was considered that labour had commenced. On the evening of the 7th the pain became continuous and more distressing and about the same time the patient commenced to vomit some yellow fluid. The pain and vomiting continued and were for some hours accompanied by alarming symptoms of collapse, but the child was safely delivered and after that the symptoms subsided; the pulse fell from 130 to 80 and the temperature was normal. This respite was, however, very brief and six hours later the pulse had risen to 136, the respirations were 60, and there was continuous vomiting and great collapse but no pain. It was at this juncture that Dr. Berkeley first saw the patient and on examination he found signs indicating great dilatation of the stomach. The organ appeared to reach within two inches of the pubes. The liver dulness was partially obliterated and the lower lobe of the left lung was pushed up, so that the percussion note over the lower part of the left side of the chest was hyper-resonant. The diagnosis was further confirmed by the elicitation of a marked succussion splash and by the presence of frequent vomiting of large quantities of yellowish fluid without any effort. Dr. Berkeley kindly asked me to see the case and we came to the conclusion that the predominating symptoms were those of acute dilatation of the stomach, and from the apparently normal confinement which had taken place only a few hours before and in the absence of abdominal pain and tenderness there did not seem any justification for supposing there was any underlying cause other than shock. We therefore, with a view of alleviating the more distressing symptoms, passed a soft tube into the stomach and drew off over three pints of fluid, after which the patient for a time expressed herself as considerably relieved but she eventually died about six hours later. A post-mortem examination showed the presence of general purulent peritonitis which had arisen from the rupture of an ovarian abscess. The stomach was moderately distended and had evidently undergone some contraction after the evacuation of the fluid, as has frequently been noticed in other cases.

In this instance, then, the acute dilatation of the stomach was secondary to the peritonitis and therefore merely a symptom of a much graver condition. It is, of course, most important from the point of view of both prognosis and treatment to distinguish, if possible, between such a case and one in which the stomach factor is either the primary condition or the threatening fatal complication of some less serious malady.

Queen Anne-street, W.

NOTES ON THE THERAPEUTIC USES OF THE SALSOMAGGIORE WATERS.[1]

BY G. SANDISON BROCK, M.D. EDIN. & ROME, F.R.S. EDIN.

IN the admirable report of THE LANCET Special Analytical and Sanitary Commission on the Iodo-bromo-saline Waters of Salsomaggiore[2] reference is made to my own observations bearing upon the therapeutic uses of the waters. At the risk of repetition I shall here endeavour to arrange these as far as possible in the order of their importance and at the same time to supplement to some extent what has already appeared in THE LANCET'S report.

The uses to which the waters of Salsomaggiore are now put, as well as the methods of employing them, have been largely determined by the nature and the mode of treatment of the first few cases recorded by Berzieri, the village practitioner of Salsomaggiore, to whom the original inspiration came (in 1839) of utilising them for therapeutic purposes. The first case in which he used the baths was one of caries of the bones of the foot, no doubt tuberculous, and to this day the waters continue to enjoy the reputation earned by the success of that treatment in a great variety of tuberculous lesions, whether in bones, joints, glands, or skin. It is, perhaps, chiefly for this class of cases that the waters are most esteemed amongst the common people in Italy, the various communes sending for treatment to the sanatorium of Salsomaggiore batches of patients, mostly of this kind, every three weeks throughout the summer and paying their expenses. No better testimonial to the efficacy of the waters could be given than the fact that the same communes, encouraged by the great benefit derived, continue to send such patients year after year, and that in many instances these patients return from time to time of their own accord and at their own expense when assailed by recurrences of their maladies. No doubt the change of air and the better food which such patients obtain at Salsomaggiore contribute largely to the success of the treatment in these cases; nevertheless, they must still be regarded as amongst the most promising of those indicated for the Salsomaggiore cure.

The alterative, absorbent, and healing properties displayed by the waters in these scrofulous cases naturally led to an extension of their use to all affections where in connexion with a localised morbid process there existed open sores, sinuses, inflammatory swellings, or exudations. Their beneficent action in the chronic stages of inflammatory diseases forms, indeed, the basis of their fame at the present day. In the acute stages they are generally regarded as contra-indicated (although this is by no means a settled question), but the acute stage once over all are agreed that great benefit is derived from their use in such affections. In cases of appendicitis where a certain amount of pain and swelling remain after an acute attack or where an abscess has been opened or has burst leaving painful adhesions or exudations behind in the neighbourhood of the colon the absorbent and healing effects of the baths are often very remarkable. For sequelæ of peritonitis, of pleurisy, and of synovitis, for arthritic troubles after dislocations, for the thickening of bone and periosteum following fractures and other injuries, or indeed in most chronic inflammatory processes accompanied by pain, stiffness, swelling, or deformity, the soothing or stimulating properties of these waters, or of applications of the mud deposited from them, are found to be highly beneficial. Especially satisfactory are the results obtained in arthritis consequent upon acute rheumatism or relapses of that malady, as well as in that occasioned by gout. In these cases the baths exercise a strongly soothing and absorbent influence locally, and at the same time stimulate powerfully the excretory functions of the body, enabling the system to throw off rapidly the poisonous waste products by the skin, the lungs, and the kidneys.

The remarkable absorbent effects of the waters have led to their very extensive employment for diseases of women. It is, perhaps, in this connexion that they are most known and made use of in Italy amongst the well-to-do classes. All possible varieties of gynæcological ailments find their way to Salsomaggiore, and it is really wonderful how many different maladies in that large category of diseases find relief from the treatment. This is explained by the fact that the greater number are of an inflammatory nature, in the chronic stage so favourable to the healing action of the waters. Amongst those most amenable to the treatment are the various inflammatory affections of the uterus and adnexa—to wit, cervicitis, endo-, para-, and peri-metritis, salpingitis, pelvic peritonitis, and pelvic cellulitis. Lacerations, displacements, and new growths may derive benefit as far as certain secondary effects produced by them are concerned. Sterility is often cured, as might be expected when the cause producing it is susceptible of removal, by a course of the baths. Functional derangements of the sexual organs of the most diverse kind often yield to the treatment—such as amenorrhœa, menorrhagia, dysmenorrhœa, or irregularity of menstruation—a result due probably to a general tonic effect which the waters exercise upon the nutrition of the body.

The large quantity of iodine present in the waters has suggested their use in diseases due to infection by specific germs other than that of tubercle, and they are, in fact, found of great value in the later stages of syphilis (both for the secondary manifestations in the skin, the mucous membrane, and the periosteum, and for the tertiary changes in the bones and the organs), as well as for the sequelæ of gonococcic infection, whether in the genital organs themselves (as urethritis, orchitis, metritis, &c.) or in other parts of the body (post-gonorrhœal rheumatism, arthritis, and synovitis).

A considerable number of neurasthenic and anæmic patients also benefit, often quite remarkably, by the Salsomaggiore treatment. In those cases the restfulness and quiet of the place itself must greatly contribute to the successful result,

[1] For much information regarding the therapeutics of the waters I am indebted to my colleague at the baths, Professor Zoja.
[2] THE LANCET, July 12th, 1902, p. 94.

but the soothing effects of the baths and the alterations which they are capable of producing in the nutritive processes of the body through the nervous system and the circulation have also, we may be sure, an important share in bringing it about.

A popular belief has gradually arisen in the power of the waters to give tone to the mucous membrane of the respiratory tract and so to prevent attacks of coryza and ordinary bronchial colds. Many go through the "cure" regularly every summer with the idea that they are thus insured against such attacks for the whole of the ensuing year. This virtue is especially attributed to the inhalations which form a great feature of the treatment as it is now carried out at Salsomaggiore, and undoubtedly they have proved to be a most valuable adjunct to it, both by means of their local effect upon the parts with which they come into contact, as well as by an indirect action exercised through the blood upon the system generally. Whilst there seems to be as yet no satisfactory evidence that any absorption of the saline and other constituents of the waters takes place through the skin during bathing, there can be no doubt that during a prolonged stay in the inhalation-room a certain amount of the iodine and other ingredients of proved therapeutic value does actually enter the blood, and it is therefore reasonable to suppose that their presence there may exercise a distinct influence upon morbid processes in the body and contribute appreciably to their cure. The ordinary course of baths is for this reason often supplemented by the use of inhalations even when there is no local affection of the respiratory apparatus calling for their employment. But where such exists excellent results are frequently obtained either by directing a spray of the *acqua madre* (deprived of some of its calcium and magnesium salts) on to the affected part, or by causing the patient to breathe for a considerable length of time the atomised natural water in the inhalation-room. The direct spray is used for affections of the upper air-passages (rhinitis, pharyngitis, laryngitis, and trachitis); where the lower part of the respiratory tract is involved, as in chronic bronchitis and bronchial asthma, a prolonged stay in the inhalation-room is also frequently beneficial. In chronic catarrhal conditions of the conjunctival mucous membrane a spray or douche of the diluted *acqua madre* may be used with benefit. In all cases where the direct spray is used it is essential to begin the treatment with weak solutions of from 1° to 2° Beaumé, gradually increasing the strength to 7° or 8° Beaumé. The use of the direct spray and of the inhalation-room is often combined in these catarrhal affections, for both have a beneficial effect by soothing irritation, reducing congestion and swelling, liquefying and loosening thickened adherent mucus, and thus bringing about a healthy condition of the mucous surfaces.

When a powerful local effect is desired—as, for instance, in cases of glandular enlargements, arthritic joints, injuries by sprains, damage to parts by old wounds, dislocations, fractures, &c.—the Salsomaggiore mud, or *fango*, is made use of. This mud, collected from the tanks into which the springs flow on emerging from the artesian wells, is saturated with the salts of the waters and strongly impregnated with the oily bituminous ingredients contained in them. Applied hot in the form of a poultice over or around the affected part it has an excellent effect in soothing pain, reducing swelling, and removing stiffness. These mud applications are kept on for from 20 minutes to half an hour and are scraped off just before the patient enters his bath. They are a most useful part of the Salsomaggiore treatment and are much in favour amongst patients on account of the speedy relief which they generally afford.

The indications for the Salsomaggiore treatment may be summed up briefly as follow:—

1. Tuberculous disease in bones, joints, glands, or skin.
2. Gynæcological ailments, more especially those of an inflammatory nature.
3. Rheumatism and gout, especially the arthritis associated with them.
4. Inflammations in general, in the chronic stage; catarrhal affections of eyes, ears, nose, mouth, and throat; and bronchitis.
5. Various results of injuries, wounds, &c.
6. Tertiary syphilis and post-gonorrhœal affections.
7. Neurasthenia, neuralgia, and neuritis.
8. Anæmia and retarded convalescence from acute illnesses.

Rome.

THE TREATMENT OF CONVERGENT SQUINT IN HOSPITAL PRACTICE.

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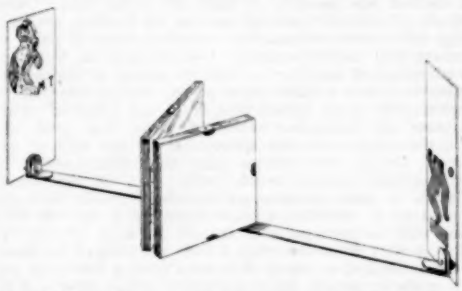
THIS important subject is far from receiving at the present day the attention which it merits. I do not refer to the question of operation in this disorder as there has never been a tendency to under-activity in that department. I allude to the well-known fact that no systematic method of orthoptic training is usually adopted owing to the time and trouble necessary to carry out such treatment efficiently. The constant rush of out-patient work and the demand on the time and energies of ophthalmic surgeons for many other purposes are responsible for the neglect of this valuable means of cure.

The backbone of orthoptic treatment is the stereoscope. Many excellent forms of this instrument have been invented and can be used in high degrees of squint. These cannot be of service for hospital purposes for one reason—they are prohibitive in price. It has always seemed to me that perhaps the most important reason why the treatment of convergent squint is so unsatisfactory is that no stereoscope of suitable construction and small cost is at the command of the ordinary hospital patient for home use. If the surgeon finds it impossible to carry out the treatment he may safely delegate this to the patient's mother if she is provided with a cheap and convenient instrument for the purpose and is shown its use beforehand. I have devised the little stereoscope shown in the woodcut for use in hospital practice. It is constructed of the cheapest materials



and can be used in cases of convergence of high degree. I am well aware of its imperfections which are mostly such as are inseparable from its cheapness. It consists of two mirrors eight centimetres square united by a hinge. To the lower border of each mirror is attached a brass bar 15 centimetres long with a clamp obliquely placed at its extremity. The bar is freely moveable but can be fixed at any angle to the mirror by a toothed stay which gives additional firmness. The angle at which it is usually placed is 115°. When not in use the hook is undone and the instrument can be folded into a convenient shape. The stereoscopic figures employed vary much in size according to the visual acuity and youth of the patient. Duplicate coloured scrap figures on glass slides are very useful, parts of each figure having been carefully cut out. It is of great service to use letters on each glass slide alongside or across the figures and leave gaps between them. On fusion in the mirrors they are seen as short words such as "Tom," "Bob," &c., and act as valuable controlling tests in children who can read. Almost any object the ingenuity of the experimenter may devise can be adapted to the instrument. The ordinary photographic views in the shops can be employed. They are first cut in half and transposed, right half in the left clamp and *vice versâ*; controlling dots are useful, of course, with these. The oblique position of the clamps presents the objects nearly square in the mirror to the observer and facilitates their fusion. Our usual routine treatment in cases of squint occurring in hospital practice is as follows. The refraction is first accurately estimated under atropine; two pairs of glasses are then ordered. The first pair contains the patient's full-distance correction under a mydriatic and are for constant

use; the second pair adapt him to a distance of 25 centimetres, approximately that at which the objects are viewed in the mirrors. The lenses in the latter pair of glasses are decentred inwards. Stereoscopic training is at once resorted to when the glasses are procured. The patient's mother is first shown the use of the instrument. The child is then shown the two separate halves of the figure on the slides. The latter are then superposed and he sees the whole figure and is told he must look for it in the mirrors. He is now placed on a chair facing the windows and the teacher stands behind holding the angle of the mirror in front of the patient's nose and open at about a right angle. The head is steadied by the teacher's wrists in this position. If the patient sees the separate halves of the object simultaneously the mirrors are gently manipulated until he fuses them and I find that if left alone with the mother the child can often accomplish this sooner than with anyone else. The next step is to train him to relax his convergence in the interests of binocular vision and this is often a tedious business, but steady improvement usually takes place if he is exercised twice daily by the mother and presents himself every fortnight at the hospital. Herein lies, I think, the chief argument for the use of a stereoscope at home. The fusion faculty in a young child may be readily aroused and preserved by occasional exercises, but to overcome the tendency to converge unduly requires many such exercises and these at short intervals. In the cases where the patient is unable to see both objects simultaneously in the mirrors, the one seen may be thrown into shade by tilting the mirror, and the stay on the opposite side being gently released from its attachment the bar may be moved independently to attract attention.

With regard to the age at which such exercises may be begun there is no definite rule, much depending on the idiosyncracy of the child. Glasses should be ordered, however, and stereoscopic training should be resorted to at the earliest age possible in each individual case. Other methods of orthoptic training, such as bar reading, are most useful with older children, but cannot contend in point of accuracy with the stereoscope. I would point out, however, the advantage of teaching a child its letters at the earliest age possible, as a modified form of bar reading can then be adopted with large letters and is of the greatest value. In cases of monocular squint I cover the good eye until the squint becomes alternating at the will of the patient, though in such a case the visual acuity in one eye may remain much below that of the other. In such a case stereoscopic training should also be adopted as a modified though useful form of binocular vision may be procured even though the sight of one eye differs greatly from the other. I do not believe, however, in the prolonged exclusion of one eye after a fair effort has been made to restore the visual acuity of the other, nor do I think that such wearisome treatment renders the patient more likely to learn to fuse in the stereoscope. With regard to the question of operation tenotomy of an internal rectus is necessary in most old cases of monocular squint and probably in these alone. Advancement of each external rectus has now many advocates and is far preferable in the younger cases. The earlier stereoscopic training is resorted to, the greater the care taken in its details, and the more constant its employment the less frequently will the surgeon have to resort to operative treatment in cases of convergent squint.

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CHRONIC SPHENOIDAL SUPPURATION: SOME OBSERVATIONS ON OPERATION AND CICATRISATION.

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THE treatment of chronic suppuration of the sphenoidal sinus ranges itself under three heads: (1) irrigation and insufflation of powders; (2) breaking down the anterior wall and curetting the cavity; and (3) extending the operation by removing a part of the floor.

Some surgeons advise against operation on account of its difficulties and dangers. The depth of the sinus from the surface, the small and uneven calibre of the channel for manipulation, the irregularity of contour of the cavity which may present large pouches or diverticuli, the important intracranial structures in close relationship with it, and the breaches (anatomical or pathological) which may be found in the bony wall—all lend countenance to this view. But an unyielding abscess cavity (bony walls) filled with retained pathological products (solid and fluid) and the lining membrane of which has suffered the usual degenerative changes cannot be cured by irrigation through an opening at a considerable height above the floor. Hence the attempt to treat the sinus on the lines which surgical experience has shown to be essential—removal of pathological products and drainage. This end was sought by breaking down the anterior wall and curetting the cavity. Did the means attain the end? Concerning the removal of the pathological products it is to be observed, having regard to the anatomical conditions and to the pathological changes which may have taken place, that curetting must be considered as a delicate procedure and that in individual instances there may be doubt as to whether it has been efficient—whether the diverticula and pouches have been thoroughly explored. In respect of the drainage effected the method of operation was also open to objection. The opening obtained does not always reach the level of the lowest part of the sinus. To remedy this defect it was suggested that a part of the floor should be removed. Does the enlarged operation always secure thorough drainage? I have performed it in three cases, removing (in addition to the whole of the anterior wall) as much as I could—both anteroposteriorly and laterally—of the floor. I employed Grunwald's forceps and burrs driven by a dental engine. The burrs were very useful, enabling portions of bone to be removed which on account of physical difficulties could not be dealt with by the forceps. In two of the cases (mentioned hereafter as No. 2 and No. 3) the opening effected almost reached the level of the lowest point of the floor, but in the patient mentioned hereafter as No. 1 it did not, although the opening was large, the great depth and a rapidly increasing thickness of the bony floor limiting the operation. In all the cases the lateral margins of the opening were flush with the septum and the outer wall. Whether or not the drainage in such cases is effectual depends not merely on the presence or absence of depressions or pouches but also largely on the character of the healing process which sets in. This suggests the question, What is the condition of the sinus when as the result of treatment it has ceased to be a discharging cavity? Has it become lined by a more or less thin dry membrane or has it become wholly or largely occupied by granulation tissue? Even where the opening has been the largest possible the surgeon would probably find it a difficult matter to describe the condition of the cavity at a given moment during cicatrisation.

As the cases which I have mentioned bear upon the points which have been raised I shall now state a few facts concerning them. The patients were a man, aged 30 years, and two young women, aged 21 and 19 years respectively. In all (left side) there were nasal polypi (in No. 1 and No. 3 these were so numerous and bulky as to fill a nostril of large dimensions—the septum was displaced—and also to encroach on the post-nasal space); in all the ethmoidal cells and the sphenoidal sinus were involved; in all the middle turbinated bone and the polypi were removed, the ethmoidal cells were broken down and curetted, and then the anterior wall of the sphenoidal sinus was removed and the cavity curetted. In No. 1 and No. 3 the floor of the sinus was not removed for several weeks, but in No. 2 the anterior wall and the floor were removed at the same sitting. I was forced to remove the floor in No. 1 by finding on one occasion that the quantity of secretion on dressing was greater than could be accommodated in the cavity as revealed by exploration after removal of the anterior wall. From this circumstance it was inferred that there must be a pouch so situated as to escape detection and necessitating for exploration and treatment a larger opening. This view was found to be correct when the larger part of the floor was removed. It was then seen that there was a large deep pouch, lateral to the plane of the outer wall of the nose, formed by a bony septum which was beyond the effective reach of the forceps and burr, so that for the pouch I was limited to scraping by a ring knife. In all the cases the ethmoidal seat of operation healed quickly and satisfactorily; in all granulation tissue was formed in such quantity in the sinus and around its artificial opening that, large as the aperture was, it became

so reduced both antero-posteriorly and laterally that I thought it insufficient for drainage and dressing and likely to close. Hence, on several occasions I have by the cautery enlarged the opening almost to its greatest dimensions and destroyed part of the granulation tissue (in one of the cases I have also used chromic acid).

In all the cases the discharge is now small in quantity: but can one be sure that none is penned up either in anatomical pockets or cicatricial pockets—i.e., pockets formed by the coalescence or contact of opposing granulations leaving cavities behind unlined by dry membrane? Judging from what takes place in other more accessible parts of the body such an occurrence must be regarded as not improbable. My experience of radical mastoid operations—extending to about 200—shows this clearly. Here the field of operation lies before the eye, pathological products can as a rule be completely removed, and the wound cavity in its entirety and throughout cicatrisation is generally open to inspection. In some cases the cicatricial tissue produced is small, so small, indeed, that the healed cavity is almost as large as the operation cavity which has been covered by a thin layer of dry membrane. In other cases the cicatrised cavity is small, very much smaller than the operation cavity, granulation tissue having been abundantly produced. Between these extremes there are many grades. The free production of granulation tissue after mastoid operations leads at times to trouble. Cases are not unusual in which it is difficult to keep opposing surfaces apart until the reparative process immediately behind (deeper) has been effected—in other words, to prevent the formation of pockets. This difficulty I have experienced in cases where at the time of operation I have paid special attention to the walls of the cavity with a view to guard against this contingency by so far as possible removing ridges and avoiding depressions. Again, pockets may be in existence for considerable periods without manifesting their presence; in one case a pocket requiring treatment was found after months of what seemed complete cicatrisation. In studying sphenoidal cicatrisation our experience of mastoid cicatrisation should not be forgotten, neither should it be overlooked that the latter is more under the surgeon's control than the former, for in mastoid cases the surgeon is more favourably circumstanced (*a*) to remove the whole of the diseased products and tissues, (*b*) to render the cavity more favourable to healing by removing ridges, and (*c*) to control cicatrisation by caustics and dressings. It is evident that the question of cicatrisation after even the most skilful operation on the sphenoidal sinus may be of great importance and that a cure may not have been effected, although for a considerable period there has been no discharge from the sinus.

Note.—Although the subject of this paper is chronic suppuration of the sphenoidal sinus it is desirable that I should give some additional facts relating to the three cases mentioned above, showing the extent of the area involved in the pathological process, in order that their character and significance may be more fully understood. In No. 1 there was on the left side (in addition to the ethmoidal and sphenoidal suppuration) suppuration of the frontal sinus and the antrum, both of which have been operated on from the outside. On the right side there are some small polypi and pus and it is not unlikely that some of the air-spaces will have to be dealt with. The nasal trouble in this case is believed to date from boyhood. In No. 2 there were on the right side nasal polypi and suppuration of the ethmoidal cells and sphenoidal sinus; the polypi and middle turbinate were removed, the ethmoidal cells were broken down and curetted, and the anterior wall of the sphenoidal sinus was broken down and the cavity curetted with an apparently satisfactory result. On this side the frontal sinus is to be opened. In No. 3 the left frontal sinus requires to be opened but for domestic reasons it has to be postponed.

Manchester.

CONVALESCENT HOME AT LLANDUDNO.—The foundation-stone of a new convalescent home was laid at Llandudno on July 23rd by Lady Forester. The funds for the erection and endowment of the institution are derived from the estate of the late Lady Forester who bequeathed nearly £750,000 for the erection of hospitals and a convalescent home for the benefit of the poor of Shropshire and North Staffordshire.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF ANEURYSM OF THE SECOND AND THIRD PARTS OF THE LEFT SUBCLAVIAN ARTERY; LIGATURE OF THE FIRST PART; RECURRENT PULSATION; SIMULTANEOUS LIGATURE OF THE INFERIOR THYROID, VERTEBRAL, AND THIRD PART OF THE AXILLARY ARTERIES; RECOVERY.

(Under the care of Mr. CHARLES STONHAM, C.M.G.)

THE treatment of an aneurysm of the second or third part of the subclavian artery on the left side stands in rather a different position from that of an aneurysm of this vessel on the right side of the body, for on the right side there is no intrathoracic portion of the subclavian and ligature of the innominate artery is certainly a much more serious operation. On the left side, however, the first portion of the subclavian artery is much longer than on the right, and there is ample room for the application of a ligature internal to the origin of its branches. The following case is remarkable, not merely for the successful application of a ligature to the intrathoracic portion of the subclavian, but also for the subsequent ligation of several of its branches and of the axillary artery with an ultimately successful result. In estimating the prognosis of such operations no stress should be laid on the statistics of pre-antiseptic days, for sloughing of the sac and secondary hæmorrhage from the site of application of the ligature were the chief causes of failure and nowadays these are practically eliminated. We congratulate Mr. Stonham on the success of his treatment.

A man, aged 43 years, was admitted into Westminster Hospital on April 13th, 1899, in consequence of a swelling "in the root of the neck on the left side." The patient had contracted syphilis 14 years previously and 10 months before admission he had a gumma on the left calf, one on the inner side of the left thigh, and a third on the left forearm. In November, 1895, he was admitted into St. Peter's Hospital, Bristol, in consequence of "bronchitis and considerable hæmoptysis"; he was an in-patient 10 months, when he was discharged as suffering from phthisis and being incurable. He was then admitted into the St. George's Infirmary, Fulham-road, and improved considerably. On his discharge he resumed his work as a carpenter and worked regularly until he came to the hospital, although he was "troubled with his chest and a cough." He had also suffered from piles and right-sided sciatica. As regards his present illness, five months before admission the patient experienced an aching pain in the upper part of the left chest and noticed a swelling of about the size of a walnut at the root of the neck above the left clavicle. This swelling was at first very tender but the pain soon passed off and the patient put pressure on the swelling for two or three days, after which, according to him, it disappeared, but suddenly reappeared two or three days later. This swelling gradually increased in size, but although at first he occasionally suffered acute stabbing pain in the left chest and down the left arm this did not trouble him latterly and he continued his work until April 12th, 1899, the day before his admission.

On April 17th the patient was thin and had a worn expression. The chest was badly formed and its mobility was markedly deficient. The percussion note was somewhat impaired at the apex on both sides; there were no moist sounds or other abnormality; there was no expectoration. The heart was normal. The arteries were not rigid or particularly tortuous. The abdominal viscera were normal. The urine was of specific gravity 1016, acid, and contained no albumin or sugar. The ends of the fingers were clubbed, especially on the left hand. There was a swelling in the left supra-clavicular region of about the size of a duck's egg

rising well above the clavicle and situated over the third and part of the second part of the subclavian artery, extending forwards beneath the clavicular head of the sterno-mastoid to near the middle of the sternal head. The swelling occupied the whole of the supra-clavicular fossa, but there was no dulness below the clavicle indicative of its extension in that direction, although it is true that there was deficient resonance at the apex of both lungs; this deficiency was equal on both sides. The swelling was expansile and there was a very distinct systolic bruit and thrill. The diagnosis was aneurysm affecting the convexity of the second and third parts of the left subclavian artery. Dr. W. H. Allchin kindly saw the case with Mr. Stonham with the view to ascertain the condition of the thoracic viscera; he was unable to detect any organic mischief. After carefully considering this case in all its bearings and being convinced that rupture of the sac would occur in a short time, Mr. Stonham determined to attempt cure by proximal ligature in spite of the general opinion that such an operation should not be undertaken.

An operation was performed on April 26th. The patient was placed under chloroform and Mr. Stonham proceeded to tie the vessel in the thorax, being most ably assisted by Mr. E. P. Paton. The shoulders being somewhat raised by pillows, the head thrown slightly backwards, and the face turned to the opposite side, a vertical incision about six inches long was made parallel to, and just outside, the sternal head of the sterno-mastoid, the centre of the incision being placed over the sterno-clavicular articulation. The upper part of this incision exposed the muscular fibres while the lower half was made right down to the sternum. A second incision was then made along the inner half of the clavicle, the knife being made to cut down to the bone. The clavicular head of the sterno-mastoid was separated from its attachment, the clavicle being closely "hugged" all the time; this part of the muscle with the upper triangular flap of skin was very carefully turned upwards and outwards. A small portion of the pectoralis major was now separated from the sternum and clavicle and was turned with the second triangular portion of skin downwards and outwards. The parts were very vascular but no vessel of any importance was encountered; all bleeding points were at once clamped and tied, the most troublesome one being a small perforating branch in the first intercostal space. The clavicle was now very carefully sawn about one inch, or rather more, from its sternal end, the division being completed with bone forceps; the sternal portion of the bone was isolated by means of a raspatory and by the knife, both instruments being kept as close as possible to the bone so that in point of fact the resection was practically sub-periosteal. During the division of the bone the deeper parts were protected by a retractor. The floor of the wound was now seen to consist of a portion of the clavicular periosteum, a layer of the deep cervical fascia and muscular tissue. By means of two pairs of dissecting forceps the outer edge of the muscular layer was clearly defined, the muscles being the sterno-hyoid and the sterno-thyroid; these were drawn inwards. Further blunt dissection revealed the carotid artery running vertically upwards along the inner border of the wound which was now becoming very deep. On the outer side and below was the dome of the pleura covered by the junction of the subclavian and internal jugular veins and a short piece of the left innominate. These veins were carefully drawn downwards and outwards, when deeply behind them about two thirds of an inch of the subclavian artery were revealed, surrounded by a little loose fat. The thoracic duct was not seen nor were any nerves or veins other than those mentioned. Little difficulty was experienced in passing an ordinary aneurysm needle armed with salicylic floss silk round the vessel from within outwards; the finger was then placed upon the vessel (which was apparently quite healthy and highly elastic) and the loop of the ligature was drawn tight beneath it, the radial pulse and all pulsation in the aneurysmal sac were arrested, and the ligature was then tied with a surgeon's knot, the ends being cut quite short. The ligature was only tied with sufficient force to occlude the artery, not to rupture the inner coats; it was situated behind the sterno-clavicular joint about half an inch from the aneurysmal sac. The deep wound was carefully dried and the displaced structures were allowed to resume their normal position, the sterno-hyoid and sterno-thyroid muscles completely hiding the artery from view. The skin wound was closed with silkworm gut and horsehair interrupted sutures, a short gauze drain being placed in the middle of the incision as deep as the sterno-hyoid and thyroid muscles. The wound was dressed with double cyanide gauze and salicylic wool, the left arm, covered in Gamgee tissue, was bandaged to the side, and one-third of a grain of morphia was administered hypodermically. The patient was put to bed in the dorsal position with the head turned slightly to the right and was kept in that position by sand-bags; a small pillow was placed beneath the left arm to support it.

On April 27th he had been sick three times; he had slept for six hours and had been comfortable. The pulse was 84, regular, and of rather low tension. The temperature was normal. One of the fingers when examined was quite warm and the circulation was good. There was no pain. On the 28th he had slept fairly well. There was no pain. The pulse was 76. The circulation in the left hand was good and the radial pulse distinct. He complained a good deal of thirst. Five grains of potassium iodide were ordered to be given thrice daily. The temperature was normal. On May 2nd the wound was dressed and the gauze drain was removed. Slight pulsation, not expansile, was felt in the sac, which was much smaller and harder. On the 9th the stitches were removed; the wound was soundly healed; it was now covered with a collodion dressing. The sac was smaller, denser, and more localised; slight pulsation could be felt in it but could not be seen. The radial pulse was more distinct. From May 9th to June 2nd the patient was kept quiet in bed, still taking potassium iodide. On the latter date the pulsation in the sac was distinctly excentric and the sac had somewhat increased in size in the outward direction. Until a week before June 21st this increased size of the sac slightly diminished, but now the pulsation was more evident, especially at the upper and outer part. The patient also complained of pain in the shoulder and down the upper arm. The radial pulse was very good but delayed in time. On the 22nd equable and continuous pressure was applied to the sac by means of marine sponges and bandages. On the 24th there was no result from the pressure and it was consequently discontinued; indeed, the sac was clearly increasing outwards and upwards and the pulsation was becoming more evident. Dr. Allchin kindly saw the case with Mr. Stonham and it was decided that something further must be done. On the 27th the left hand was slightly swollen and congested and the patient complained that he could not move the fingers properly.

On June 28th the vertebral, inferior thyroid, and the third part of the axillary artery were ligatured. A vertical incision was made just external to that employed for the previous operation and was carried further upwards along the outer border of the sternal head of the sterno-mastoid. A second incision was made from the lower end of this outwards along the line of the clavicle and this triangular flap of skin was then turned upwards and outwards; the remains of the clavicular head of the sterno-mastoid were drawn outwards and the internal jugular vein was exposed. Blunt dissection external to the vein exposed the anterior scalene muscle and phrenic nerve. The jugular vein was drawn inwards and the muscle outwards. The transverse process of the sixth cervical vertebra was exposed. A vessel of no great size was now defined in the position of the vertebral artery and was ligatured with silk; the ligature unfortunately broke, dividing the vessel, which was secured with difficulty and tied at both ends. No other vessel could be found in this situation, though the foramen through the transverse process could be clearly defined. A second vessel—the inferior thyroid artery—was also tied. A piece of gauze was carried to the bottom of the wound as a drain and the incision was sutured with horsehair. Ligature of these vessels materially diminished but did not arrest the pulsation in the sac and it was therefore determined to apply a distal ligature to the third part of the axillary artery, and this was accordingly done just above the subscapular branch and was followed by complete arrest of the pulsation.

On June 29th the patient was comfortable; sickness had been very slight. The circulation in the fingers was good. The wound in the neck had oozed a little and the dressing was stained; this had been packed. On the 30th the wound was dressed and a smaller plug of gauze was put in the cervical wound. The wounds were healthy. On July 3rd the patient was progressing satisfactorily and was kept on fluid diet. The dressings had not been touched. The circulation in the arm was good but no pulse was present either at the wrist or the elbow. On the 4th the bowels were opened. On the 5th there had been uninterrupted

progress. The wound was dressed and the sutures and gauze plug were removed. No pulse was to be felt. The aneurysm was decidedly smaller, harder, and denser; there was no trace of pulsation in the sac. On the 11th the wounds were soundly healed. The aneurysm was still smaller and harder; over it slight pulsation could be felt along a transverse line (? the transverse cervical artery). The radial pulse was just perceptible. The further progress of the case was uninterrupted. The sac gradually diminished in size and the pulse became stronger in the radial. The patient complained for a few days of stiffness in the fingers. He got up for the first time on August 6th and soon went to a convalescent home.

Remarks by Mr. STONHAM.—In November I saw the patient and could find absolutely no trace of the sac—indeed, examination by surgeons who did not know the case did not lead to a diagnosis as to what operation had been performed and why. The complete disappearance of the sac is most remarkable. The space between the sawn end of the clavicle and the sternum contained a little fluid which I thought was probably synovium; there was no pain or redness. The movements of the arm were necessarily weak. The patient had suffered from rheumatism for years and at this time there was effusion into the left ankle-joint. In other respects he was quite well. I have seen this man as lately as March, 1902, and he continues quite well. He is doing light work as a carpenter.

HULL ROYAL INFIRMARY.

A CASE OF GUMMATOUS PERITRACHEITIS PENETRATING THE AORTA, WITH PROBABLY SYPHILIS OF THE LUNG.

(Under the care of Dr. FRANK NICHOLSON.)

FOR many years it was disputed keenly whether syphilis affected the lung at any time and it is not improbable that many of the earlier cases of pulmonary disease which were ascribed to syphilis were really tuberculous in origin. It cannot at present be doubted that syphilitic lesions, though rare, do occur in the lung; of these gummata are certainly the most common. The value of potassium iodide in the treatment is indubitable, but the drug must be persevered with and must be given in sufficiently large doses,[1] but mercury must be administered with great care in any case which may be tuberculous in nature. In all probability the lung affection in the following case was syphilitic. For the notes of the case we are indebted to Dr. F. C. Eve, house physician.

The patient was a well-nourished man, aged 38 years, who had formerly been in the army for 12 years. Six weeks before admission he was in perfectly good health, when he caught cold after violent exertion (running). Two days later he was in bed suffering from cough, pain in the chest, cold shivers, vomiting, and anorexia, and he brought up yellowish expectoration which rapidly became offensive. These symptoms became aggravated and on the strength of a gumma on the sternum he was admitted on the surgical side under the care of Mr. E. Harrison. Here the patient was treated with a short course of potassium iodide without improvement to the gumma or to the symptoms in the chest. Dr. Frank Nicholson's opinion was then invited, and as there were loud tubular breathing, bronchophony, and dulness on the lower part of the left lobe in front the case was transferred to the medical side under his care. The gumma on the chest had only been noticed for six weeks. Near it were three scars where similar lumps had been excised a year ago in this infirmary with the diagnosis of necrosis of the ribs. There was no history of phthisis or of swallowing a foreign body. In face of the patient's long military career an inquiry as to syphilis was considered supererogatory.

On admission the patient looked ill. His chest moved very badly, especially on the left side. Behind there were no physical signs. In front, below the left apex the percussion note was slightly higher pitched, there was tubular breathing, and œgophony was heard extending over the præcordia and invading the right side above the liver. The heart was not displaced and there were no signs of aneurysm. No tubercle bacilli were to be found in the very offensive, purulent, profuse expectoration. During the fortnight that the patient was under medical treatment he improved, and the vomiting which was at first troublesome had ceased and he was on ordinary diet. There was no stridor or dysphagia. The temperature, pulse, and respiration had all remained quiet throughout (temperature from 97° to 99·5° F., pulse from 112 to 84, and respiration from 36 to 20), and the physical signs had become very much less marked. He had just finished a hearty meal when, without warning, he had a profuse hæmoptysis, and after a few minutes of intense agony he expired like a drowning man before our eyes.

Necropsy.—The post-mortem examination revealed a gumma as large as half a Tangerine orange lying between the trachea and the aortic arch. This had eroded on the one hand into the trachea with an aperture two inches in length having warty margins, and on the other hand into the aorta by a pinhead aperture, while the heart of the gumma was septic and sloughing. The aorta was otherwise quite healthy. The lungs on the right side were healthy but on the left above the heart there were several (? six) patches of carnification, as large as sparrow's or thrush's eggs. The apices were healthy and there was no sign of phthisis. The Clinical Research Association reported that the mediastinal gumma was quite caseous and necrosed and showed no microscopic features. The carnified lung showed "pneumonic consolidation as well as much interstitial fibrosis. There are also foci of small cells not unlike gummata but with no caseation. There are no signs of tubercle or malignant growth."

Remarks.—The fact that a gumma may establish communication between the trachea and aorta is mentioned in Dr. Hector Mackenzie's article on Syphilis in Gibson's Textbook on Medicine, but it is presumably very uncommon. The evidence that the lung in this case was affected with syphilis is strong, if not absolutely convincing. The points in favour are: (1) that tubercle can be excluded by the healthiness of the apices, the absence of pyrexia, and the microscopic appearance of the lung and sputum; (2) that a patchy septic pneumonia can be excluded by the absence of pyrexia and the presence of fibrosis in the lung; (3) that gummata were present in the mediastinum and chest wall; (4) the presence of fibrosis and of "foci of small cells not unlike gummata" in association with broncho-pneumonia; (5) the size and number of the nodules and their situation in the middle of one lung; and (6) the purulent offensive sputum without pyrexia. The points *against* the diagnosis of pulmonary syphilis are: (1) its extreme rarity (it is said that there are less than a dozen undoubted museum specimens in London); (2) the failure of potassium iodide (for a short time); and (3) the fact that the carnified nodules were red and not caseous or greyish white. This may be accounted for by the nodules not having yet reached the stage of caseation.

[1] Wilson Fox: Diseases of the Lungs and Pleura, p. 942.

Medical Societies.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on July 10th, Dr. Heywood Smith, a vice-president, being in the chair.—Dr. F. A. Purcell showed (1) three Uteri removed by vaginal hysterectomy, two for malignant disease and one after perforation of the fundus during dilatation for the purpose of removing the sloughing particle of a fibrous polypus previously expelled; and (2) a Uterus with Multiple Myomata removed through the abdomen.—These specimens were discussed by the Chairman, Dr. Routh, Dr. J. J. Macan, Dr. Macnaughton-Jones, and Dr. H. Snow.—In his reply Dr. Purcell agreed with Dr. Routh that hard and tender vaginal caruncule suggested malignant disease. In the case of perforation the dilatation had been quite gradual, commencing with No 1 Hegar, and it was No. 9 that had perforated the fundus. Experience had taught that no serious results need necessarily follow perforation; but for it to be harmless the instrument should be aseptic and the endometrium also, and as the pedicle was sloughing he removed the uterus. He quite approved of preliminary dilatation by a tent. Professor Bossi's instrument, which Dr. Macnaughton-Jones had shown them, might perhaps have been used in the case without accident.—Dr. Macnaughton-Jones read notes of a case of Suppurating Ovarian Cystoma complicating miscarriage during the third month. When he was consulted 14 days after the miscarriage there were signs of

extensive cellulitis and some peritonitis; a week later there were softening and fluctuation in the vaginal vault. On the twenty-third day after delivery and the eleventh of the illness, after exploration, as the abscess could not be satisfactorily reached by the vagina, coeliotomy was performed. A cyst extending nearly up to the umbilicus, with wide adhesions which bled freely when separated, burst during manipulation and pus escaped; the peritoneal cavity was flushed out with formalin solution. Alarming symptoms supervened on the fourth day but the patient rallied and from the fourteenth day her temperature was hardly above normal and she did well.—In reply to Dr. Snow, Dr. Macnaughton-Jones said that the strength of the formalin solution was 1 in 5000, but he had frequently employed it in the peritoneal cavity in solutions of 1 in 3000 and even of 1 in 2000, and never with bad effect.—Dr. H. M. Macnaughton-Jones, jun., for Dr. R. D. Purefoy, Master of the Rotunda Hospital, Dublin, read (1) notes of a case of Cystic Ovaries and Rudimentary Uterus without any Vagina (the patient was tall and well developed with normal mammæ and external genitals, and had sought relief for molimina associated with incapacitating pain); and (2) notes on a Pedunculated Secondary Growth from an Abdominal Cicatrix after hysterectomy (the operation had been done for a benign tumour). Dr. Purefoy had not heard of such growths after hysterectomy, but they were described by Bland-Sutton as occurring after ovariotomy and one such had come under his notice.—Dr. R. H. Hodgson read a paper on a case of Double Pyosalpinx removed after 17 years' suffering.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held in the board-room of the Royal Albert Edward Infirmary on July 15th, Mr. T. M. Angior, the President, being in the chair. The President was elected to represent the society at the International Congress of Medicine to be held at Madrid in April, 1903. The following cases were exhibited by Dr. R. Prosser White: (1) Lupus Vulgaris treated by Injections of Old Tuberculin (a complete cure); (2) Keloid of the Cheek after a Burn; (3) Lupus Erythematosus treated by the New Tuberculin (cure); and (4) other cases of Tubercular Affections of the Skin.—Mr. Hugh E. Jones exhibited: (1) Miscellaneous Drawings, Photographs, and Radiographs (the latter by Mr. C. Thurstan Holland) illustrating the Effects of Concussion of the Eyeball, Gunshot Wounds of the Orbit, &c.; (2) Patients illustrating Various Forms of Cataract and their Treatment; (3) Plastic Operations for Contracted Socket and Cicatricial Ectropion; and (4) Ophthalmoscopic Cases.—Mr. W. Berry showed the following cases in the wards: 1. A patient who had aborted two months before admission. A portion of placenta was supposed to be retained as there were repeated hæmorrhages. He curetted and in place of placental tissue omentum was pulled down through the cervix; a piece four inches square was ligatured and cut off, the remaining portion was pushed back through the cervix, and the uterus was plugged with iodoform gauze. This was allowed to remain for 48 hours and afterwards she was douched daily. She made an uninterrupted recovery. 2. A case of Double Genu Valgum in a girl, aged 15 years. Macewen's operation was performed on both thighs at the same time with an excellent result and without a single rise of temperature. 3. A case of Concussion of the Brain. 4. A large Gluteal Abscess in a female.—Mr. C. M. Brady showed a case of a Cyst in the Right Spermatic Cord of a boy, aged one and a half years.—Dr. J. Blair showed a large Papilloma of the Vagina in a girl, aged one and a half years.—A vote of thanks to the board of management of the infirmary concluded the business.

VACCINATION EXPENDITURE.—Several of the boards of guardians in the west of England have been recently discussing the resolutions passed at a conference of delegates from the metropolitan boards of guardians to the effect that fees for primary and revaccination cases should not exceed 2*s.* if performed at the home of the patient and 1*s.* 6*d.* if performed at the surgery of the public vaccinator. The resolution at present has not received much local support, some of the guardians referring the matter to a medical committee, as the Newton Abbot board did on July 23rd. The Falmouth and Stonehouse boards of guardians at their meeting held on July 24th were both in favour of the proposal, whereas the South Molton guardians, who also held their meeting on the same day, would not entertain the idea.

Reviews and Notices of Books.

The Mental State of Hystericals. By PIERRE JANET, M.D. With a Preface by the late Professor J. M. CHARCOT. Translated by C. R. CORSON. London and New York: G. P. Putnam's Sons. 1901. Pp. 535. Price 15*s.* net.

Dr. Pierre Janet has long been known as one of the ablest clinical and psychological investigators among the many brilliant pupils who owed their inspiration to the late Professor Charcot, and the book before us is an excellent example of temperate and judicious examination of a most difficult subject. The author's conception of hysteria is broad and philosophical. Hysteria is viewed as a neurosis which affects the entire personality of the individual, disturbing not only the psychical functions and thus giving rise to a protean assemblage of mental symptoms but modifying also the bodily functions and bringing about various visceral and somatic troubles.

The work is divided into two parts. The first part occupies about 200 pages and deals with the so-called "mental stigmata" of hysteria. The various symptoms and conditions studied here include the anæsthesias of hysterical patients, the forms of amnesia from which they suffer, the disorders, or rather the defects, of will which they exhibit (aboulias), the motor disturbances which they manifest, and, finally, the modifications of character and disposition which they undergo. Under each of these headings a vast amount of facts and observations is collected and discussed and the pathological basis and significance of the conditions are clearly pointed out. Full references are given to original memoirs and articles. The second part of the work occupies nearly 300 pages. It contains the most illuminating description and discussion to be met with in medical literature on such subjects as suggestion and sub-conscious acts, fixed ideas among the hysterical, hysterical convulsions, and the conditions of delirium, delusion, and somnambulism which are present in the graver forms of hysteria. Among so much that is excellent it is difficult to pick out any particular part of the work for special mention, but the chapter on Suggestion and Sub-conscious Acts may be referred to for the clearness of exposition, depth of insight, and abundance of clinical and psychological knowledge which it exhibits. The work is one that deserves to be consulted and studied carefully in view of the light which it throws on the various clinical and psychological aspects of hysteria. It will for long remain the classical work on the subject. The translation is executed with great felicity and clearness of expression and the text is remarkably free from errors.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXI., Session 1900–1901. London: J. and A. Churchill. 1901. 8vo, pp. 328. Price 12*s.* 6*d.*

THE publication of a volume of Transactions, annually or periodically, by such a society as this is of considerable importance. The longer papers read before the society would no doubt be reproduced by the authors in another form but the memory of a large number of cases, or of what are now called "card specimens," would in all probability be utterly lost even if they gained admission into the pages of the more prominent journals devoted to general medicine and surgery. Appearing in the Transactions of a society easy reference can be made to them and the wearisome process of looking through many pages of indices dealing with irrelevant subjects is saved. Moreover, the comments of experts are often appended and the experience of others as well as that of the authors is thus obtained.

The arrangement of the contents of the volume before us is topographical, diseases of the conjunctiva, the cornea, the

iris, and the choroid and the retina brought before the society being successively given. Other sections are devoted to injuries of the eye, operations, instruments and appliances, congenital conditions, colour-blindness, and ophthalmic pathology. There are no less than 18 plates, many of them being well-executed chromo-lithographs, whilst others illustrate pathological specimens the microscopical features of which are reproduced by photography. There are also many diagrams and drawings in the text.

There is a good article by Mr. Norman G. Bennett, in which the author adduces evidence showing the frequent coexistence of lamellar cataract and hypoplastic teeth—that is to say, teeth presenting imperfect calcification—and considers that this combination suggests a common cause for the two lesions. The ocular lesion, however, he points out, differs from the dental lesion in being produced after the development of the tissue instead of during that process as it must be in the case of a calcified tissue. He is inclined to think that of several causes capable of producing hypoplastic teeth one or more only can cause the ocular lesion. He maintains that lamellar cataract is a disease of early infantile life and is due to some general derangement of health, which also affects the teeth. The general derangement is brought about by errors of feeding and nutrition.

Various forms of apparatus and new instruments are described. Thus Mr. A. Ainslie Hudson extols the action of an instrument adapted to effect vibration massage. It is worked by electricity and sets up rapid vibrations the influence of which penetrates to a great depth. He has found its application extremely useful in a case of incessant supra-orbital neuralgia and in cases of paralysis of the external and internal recti. Major Herbert E. Drake-Brockman, I.M.S., has devised a new pattern of eye speculum which, amongst other advantages, is light and by the introduction of an additional joint in the shanks allows of considerable alteration of the general curve to suit the contour of the face. Mr. H. Secker Walker has devised a diagrammatic model intended to assist in the teaching of refraction in relation to the eye. Mr. Gustavus Hartridge uses a curved capsulotomy knife of which he gives a drawing. Mr. J. H. Tomlinson exhibits a recording colour perimeter and Mr. C. S. Blair a portable refractometer.

A valuable communication illustrated by many plates is that by Dr. Leslie Buchanan. In this article the pathological changes that occur in the eye as a consequence of the entry of a chip of metal into it are carefully followed out. The microscopical feature of the exudate that is found in cyclitis, the multiplication of nuclei and cells, the subsequent processes of fibrosis and fatty degeneration, and the final stage of ossification are all fully described and are well shown in the illustrations. Another article of considerable merit and much originality is that by Dr. Ernest Thomson on the Determination of the Influence of the Eyeball on the Growth of the Orbit, by Experimental Enucleation of One Eye in Young Animals. Sir Anderson Critchett records some interesting cases of bullet wounds affecting vision received during the late war. There are two communications from Dr. F. W. Edridge-Green, one upon a Trichromic or Three-unit Case of Colour-blindness and the other upon the Evolution of the Colour Sense. Short accounts are given of a large number of isolated cases occurring in the practice of the members. The volume supplies good evidence of the vitality of the society.

Higher Mathematics for Students of Chemistry and Physics. By J. W. MELLOR, D.Sc. London: Longmans, Green and Co. 1902. Pp. 543. Price 12*s.* 6*d.*

ADVANCED students of theoretical chemistry have long felt the want of a book like this which contains just the kind of mathematics that is required daily in connexion with their work. Scientific investigators are constantly endeavouring to group together their observations under some general law. After collecting their facts they proceed to guess at the nature of the underlying law that connects them. Assuming this working hypothesis as provisionally true they argue as to its effect in other cases, and a further appeal to experience either verifies or negatives the truth of the hypothesis. It is only comparatively recently that this last and most important step of verification has been taken with regard to certain chemical theories. This is mainly because chemists as a class are not mathematicians and they do not realise that some knowledge of the calculus would show them exactly what experiments would finally test their hypotheses. Dr. Mellor's admirable method of dealing with his subject is well exemplified in his introduction to the study of integration. Cane sugar is converted into invert sugar in the presence of dilute acids. What law governs this change? Wilhelmy has suggested the law that the speed of the chemical reaction at any moment will be proportional to the amount of cane sugar actually present in the solution. The law however in this form cannot be experimentally verified, for the speed is not really constant during any finite interval of time, because the amount of cane sugar remaining to be acted on is continually decreasing. The law is therefore expressed as a differential equation, and then by the methods of integration the amount of invert sugar formed according to this law in a given time, whether five seconds or an hour, can be found. On making these experiments the results are in complete accordance with Wilhelmy's hypothesis, which is now known as Wilhelmy's law. Integration therefore bridges the gap between theory and fact in a form suitable for experimental verification. This simple instance will show that some knowledge of both differential and integral calculus is required by the scientific investigator of chemical laws.

The last chapter of the book contains a very complete discussion on the Theory of Errors. It is most important that all scientific workers in the laboratory should know how to interpret their observations. If, for instance, 13 different observations of the atomic weight of oxygen are made, the method of finding the best representative value for this set of observations is given; and further, if any observation is very discordant with the others, whether it should be rejected or not. When a very large number of observations have been made, no one should be rejected under the pretence that it vitiates the other observations; when, however, the number is small the abnormal measurement, if allowed to remain, would exercise a disproportionate influence on the mean. In these circumstances Chauvenet's criterion is recommended, which is an attempt to show that trustworthy observations will not deviate from the arithmetical mean beyond certain limits.

Enough has been said to show the eminently practical nature of the book; the able chapter on Fourier's theorem would probably not satisfy a pure mathematician, but the two assumptions made in it are clearly stated, and those who have waded through the elaborate investigations to justify them will be the first to admit that they have no place in a book of this kind. The style of the book is clear and interesting and the type is excellent and remarkably free from misprints. A minus sign should be substituted for the plus sign on page 27 (12), and on page 30, in example (5), a *u* should be substituted for the *y*. One misprint occurs several times "parellelopiped" for *parallelepiped*. It may be noted, too, that in the section on Solid Geometry the positive direction of the axis OY is taken outwards, whereas this is usually taken as the negative direction. The author is to be sincerely congratulated on his masterly treatment of such a large range of subjects, each section of which is

of more or less practical importance to those engaged in chemistry or physics.

Le Traitement Médical des Inflammations du Cæcum—Typhlite, Périty phlite, Appendicite. (*The Medical Treatment of Inflammations of the Cæcum—Typhlitis, Perityphlitis, Appendicitis.*) By Dr. BOURGET, Professor of Clinical Medicine in the Faculty of Medicine of Lausanne, Switzerland. Geneva: C. Eggimann and Co.

THIS is a very useful practical book—especially useful just now, for it is evident from the correspondence columns of THE LANCET that medical opinion and practice in relation to the questions treated are not yet mature. Thoughtful physicians, especially those in charge of patients in the wards of hospitals, have long been face to face with the difficulties. They have frequently had under their care patients who have presented the classical signs of perityphlitis—pain on pressure over the situation of the cæcum, resistance felt over this area, sometimes a localisation of the maximum of the tenderness and pain over the anatomical site of the appendix vermiformis together with subjective signs suggesting a local peritonitis. In many cases they have found rest and careful treatment to be followed by recovery. In some cases there has been relapse, but even in relapsed cases recovery has followed. The relative proportions of recoveries to deaths have been variously estimated. Some have thought that the great majority of patients have recovered; others have put down the fatal cases as one-quarter at least of all those observed. It has been, at any rate, proved that in a very notable proportion surgical interference has in these later days been a means of saving life. It is easy for the reasoning to be in favour of surgical intervention in *all* cases. This seems to be illogical in view of the fact—if it is a fact—that a large number of patients recover without the intervention of the operating surgeon. This little book, certainly without any elaborate and profound reasoning, takes the side of the *medical* observer, agrees that a very large proportion can be cured by judicious treatment without surgical operation, and points out the practical means to be adopted. First the author dismisses the treatment by external applications of ice and by internal administrations of opium as useless or worse than useless. He insists upon the value of prophylactic measures, affirming that all the individuals attacked with perityphlitis suffer from gastro-intestinal troubles. Anti-dyspeptic treatment is therefore of high importance, and the chief of these means is anti-constipation treatment by diet, by the administration of vegetable juices, by judicious muscular exercises, and by laxatives such as Carlsbad salts or capsules containing small doses of castor oil. A suitable *régime*, too long to quote here, is given on page 23. If an acute crisis occurs the diet should be liquid; castor oil in sufficient doses, with salacetol in doses of from 15 to 30 grains, should be given and enemata should be administered. This is the strong contention of the author: that any preconceived objections to intestinal lavage in these cases are chimerical and that by means of a suitable apparatus a litre of warm water with ichthyol (four parts per 1000 in an aqueous solution) and a little olive oil should be gently injected as an enema twice a day. The author claims for these oil-containing enemata that they rapidly calm the pain and distress, producing an effect analogous to that observed in hepatic colic when olive oil has been ingested. After the second or third day of such treatment the castor oil taken by the mouth as an aperient is omitted and replaced by a saline laxative containing phosphate and sulphate of soda. The enemata are continued for from two to 10 days. By this treatment it is possible that the necessity for operative interference will be much reduced though not abolished. It is illogical to perform a surgical operation in all cases, and still more illogical to remove the vermiform appendix as a prophylactic measure in the healthy.

The author concludes with records of all the cases (23 in number) of perityphlitis which have been under his care in hospital since January, 1901. These deserve careful study and go far to fulfil the indication of a correspondent in THE LANCET of July 19th, p. 184, who suggests that it would be well for physicians, instead of recording the antiquity of the disease, to enlighten the medical mind as to the mode of treatment found by them to be most successful.

LIBRARY TABLE.

Heresies, or Agnostic Theism, Ethics, Sociology, and Metaphysics. By H. CROFT MILLER. Vol. V. London: Grant Richards. 1902. Pp. 599. Price 10*s.*—In the preface of this volume, which is the fifth of a series, the author gives a brief history of his life, which he tells us may be divided into three periods. During the first or blind and trusting period "he faithfully fulfilled one day per week what passes as the Christian duty of mumbling responses and pretending to listen to pulpit orations." During the second or inquiring period "he worshipped at the altars of empirical science" and he also "slashed at metaphysic." At this time he contributed to free thought journals and wrote a book in which he applied "in the moral and religious arenas" the investigations of a distinguished German biologist. Another book which adumbrated "the author's third personality" was "a pseudo-metaphysical struggle with the materialistic ogre." At length came the wrestling period. "Like a nightmare came the dead emptiness of what had afforded the illusion of living substance." He was troubled by "the great secret, the Whence and Whither." He asked himself whether a man could rest with Conservation and Dissipation, Gravitation, Catastrophism, Uniformitarianism, Central Localisation, and Darwinian Descent? "One man at any rate could not." That man was Mr. H. Croft Miller. Then the inner voice told him that what he knew was mind, and that he should learn what is real; but he found a difficulty. How could he account for hands, brains, telephones, rivers, dead bodies, time, space, and other things? The inner voice told him to seek. "The author has sought, and he believes has found." He reveals what he has found. He no longer slashes the metaphysic, on the contrary, he has become the chief teacher, if not the actual discoverer of "the metaphysic," and as he is so good as to explain to us, "this concluding volume of the metaphysic may be said to contain its empirical authentication." He goes on to express the hope that "the metaphysic in its main aspects is now beyond successful intellectual attack." The author, kindly recognising the difficulty that a critic might have "in dealing with a work covering unfamiliar ground," advises us to approach it in the spirit of a scientific investigator. A perusal of parts of the present volume may, he thinks, "whet the appetite for a serious study of the whole work." A study of the four volumes already published may make the reader look forward with respectful joy to another volume which the author promises, which is to deal with morality and religion. Mr. H. Croft Miller is so kind as specially to recommend the present volume to physicians. "The metaphysic" has something to teach them—to wit, that "what is called the advance of medical science constitutes ..... what may be called an advance in the manufacture of disease. The more we popularise medical studies of new disease the more we popularise the diseases themselves. ..... What is called preventive medicine operates beneficially by hypnotising the public into confidence, which is another way of saying that it prevents the public from hypnotising the matter-soul so as to propagate the disease." Mr. Miller is mistaken in suggesting that his book does not deal with familiar subjects.

We have heard of Mrs. Piper, the lady who picks at her finger-nails, and of Mrs. Eddy of Christian Science; of Home, who floated in the air, we have also heard; nor have we forgotten Katie King. Mr. Miller recalls the doings of some of these worthies. His quotations are historically interesting; his own statements will be thought by some people blasphemous, by others absurd. The book is more amusing than dangerous, but considered as a work of humour it is dear at the price charged for it.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air-passages. Being Two Lectures delivered at the Medical Graduates' College and Polyclinic on Oct. 2nd and 9th, 1901. With an Appendix consisting of Two Letters published on Nov. 23rd, 1901, and on Jan. 11th, 1902, in the *British Medical Journal*. By Sir FELIX SEMON, M.D. Berlin, F.R.C.P. Lond., Physician Extraordinary to the King, Royal Prussian Professor of Medicine, Physician for Diseases of the Throat to the National Hospital for the Paralysed and Epileptic, Queen-square. London: Macmillan and Co., Limited; New York: The Macmillan Company. 1902. Pp. 130. Price 2*s.* 6*d.* net.—What might be called the text of these lectures was Dr. J. F. Goodhart's statement that "throats and noses suffer terribly from this lust of operation that has beset the public," though Sir Felix Semon paraphrases this in his "thoughts" and says "that has beset the rhinologist." We must, however, state that it is not at the English rhinologist alone that this odium is hurled but also at numerous exponents of rhinology in Germany. The author refers early in his lectures to the well-known tendency of medical men to rush from one extreme to the other, to praise a treatment beyond its merits, or to condemn it entirely without due cause. Speaking generally our old friend "placebo" is ruthlessly condemned as an instance of want of strength of mind on the part of a medical man. These lectures are extremely well prepared, well written, and give evidence of an absolutely thorough acquaintance with the literature of the speciality. Possibly they are more destructive than creative; theories and practices are attacked but there is given in place little but general broad lines of guidance. There is no doubt that the author shows wisdom, for had he attempted a wider definition he would have laid himself open to a tack which he could not have completed within the limits of time at his disposal when the lectures were delivered. The letters which are inserted are two, the first and last of a controversy which was carried on in the pages of our contemporaries.

The Neuroses of the Genito-urinary System in the Male, with Sterility and Impotence. By Dr. R. ULTZMANN, Professor of Genito-urinary Diseases in the University of Vienna. Second edition, revised by the translator, GARDNER W. ALLEN, M.D., Surgeon in the Genito-urinary Department of the Dispensary of Boston. Philadelphia: F. A. Davis and Co. 1902. Pp. 198. Price $1.—We can find little to praise in either the matter of this book or its manner. Professor Ultzmann did not live to revise his own work and it is doubtful whether such an undertaking was required of anybody else. Those who take a pleasure in the freest use of barbarous pseudo-scientific terms and in the perusal of masturbatory consequences will be satisfied in these pages—other persons will not peruse them. The translator is, we imagine, chiefly to blame for the unattractive nature of the work as it appears in English.

JOURNALS.

The Practitioner.—The July number of the *Practitioner* contains an excellent practical article upon the Operative Treatment of Malignant Disease of the Uterus from the pen of Dr. Walter W. H. Tate. Dr. Tate lays stress upon the frequency with which an accurate diagnosis can only be made by the aid of examination under anæsthetics and points out that the decision for or against operation depends upon this examination. He remarks that cases which appear to be favourable for operation often prove, under the more searching examination possible with anæsthesia, to be really unsuitable for any such treatment. The question of vaginal hysterectomy is described in close detail and the mortality of it is stated as not more than 3 per cent. Mr. A. G. R. Foulerton contributes a long article upon the Causation of Carcinoma and Sarcoma. The various prevalent ideas and innumerable authorities are quoted. Conclusions are reserved for a future number. The editor falls foul of Mr. Jonathan Hutchinson's remarks upon the possible rôle of arsenic in the causation of cancer.

Annals of Ophthalmology. Managing Editor, H. V. WÜRDEMANN, M.D. Vol. XI., No. 2. April, 1902. Pp. 239. Published quarterly, price 18*s.* per annum.—The American journal, *Annals of Ophthalmology*, besides containing good original articles, is conspicuous for the excellent abstracts of contemporary ophthalmological literature, embracing not only the work done in France, Germany, Holland, and Italy, but that which has been published in Russia, Scandinavia, Hungary, and Japan. The chief original articles in this number are as follows. Glaucoma, by Dr. Edward B. Coburn, whose efforts to ascertain the etiology of the disease consisted in undertaking four series of experiments, the first of which was devoted to the determination of the course of the lymph currents in the anterior segment of the eye; the second to the effect of increased pressure in the anterior and posterior chambers; the third to the results of the introduction of foreign material into the eye; and the last to the effects of the indirect introduction of substances through the circulation and the closure of the channels of exit by causing changes in the ciliary region and aqueous. Dr. Coburn finds that intra-ocular changes may be induced by deleterious substances in the circulation and shows that these changes are associated with narrowing of the angle between the iris and the cornea. Dr. Howard F. Hansell and Dr. Harry Friedenwald also deal with the subject of glaucoma. Dr. E. F. Snydacker discusses Professor Mauthner's method of diagnosing paralysis of the depressors or the elevators of the eye. Dr. J. P. Nuel, the professor of ophthalmology in the University of Liege, and Dr. F. W. Marlow, professor of ophthalmology in the University of Syracuse, N. Y., supply the abstract of a Report on the Toxic Amblyopias, including quinine, tobacco, alcohol, and other forms of amblyopia. They show that the nerve-fibres are primarily affected and that secondarily proliferation of the interstitial tissues takes place. Lastly, Dr. Frederick Herman Verhoeff of Boston offers a Theory of Binocular Perspective with some remarks upon torsion of the eyes, the theory of the vicarious fovea, and the relation of convergence to the perception of relief and distance.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXVIII. No. 4. London: C. J. Clay and Sons. July 21st, 1902. Pp. 67. Price 4*s.*—The articles contained in this part are six in number and are as follows:—1. Dr. Francis W. Goodbody, Dr. Noel D. Bardswell, and Mr. J. E. Chapman: On Metabolism on Ordinary and Forced Diets in Normal Individuals. The experiments conducted by these observers show that an excessive diet is followed by lasting bad effects; that except when extreme forced feeding is employed very little nitrogen is retained in the system; that the quantity of urine of high specific gravity is augmented; and that the greatly increased quantity of nitrogen eliminated by the urine is not in the form of urea, uric acid, or ammonia. Nor was there any great increase of nitrogen in the fæces; there was a great increase in the quantity of fat in the fæces. With forced

feeding the body-weight rapidly increased. On this feeding being discontinued a rapid decrease of the body-weight took place. 2. W. M. Bayliss: Further Researches on Antidromic Nerve Impulses. In addition to other conclusions which the writer of this article draws from his experiments he finds that there are no vaso-dilator fibres to the hind limb in the abdominal sympathetic chain and that there are no vaso-dilator fibres supplying the small intestine in the vagus nerve, but that such fibres are present in the posterior roots of the twelfth and thirteenth thoracic nerves. 3. Sir W. R. Gowers: Taste and the Fifth Nerve. The importance on clinical grounds of the petrosal and vidian nerves and of the spheno-palatine and otic ganglia is dwelt upon in this communication, and it is pointed out that impairment of taste does not follow disease of the facial nerve in the skull or of the roots of the glosso-pharyngeal nerve. 4. Mr. C. H. Fagge describes the innervation of the urinary passages in the dog. He finds that the nerve-supply to the primitive urinary ducts and to all the passages developed from the Wolffian ducts and their outgrowths, including the uterus and vagina, is derived from the sympathetic system through the hypogastric nerves. On the other hand the innervation of the bladder derived from the urachus is furnished, probably later in the course of evolution, directly from the sacral portion of the spinal cord along the pelvic visceral nerves. 5. Dr. Charles S. Myers gives the results of his observations on the visual acuity of the natives of Sarawak and finds their acuity of vision to be about one and a half times greater than the normal degree. 6. Mr. M. Siegfried describes a new albuminoid obtained with gelatin from white connective tissue to which he has given the name of "reticulin." This number of the *Journal of Physiology* also contains the Proceedings of the Physiological Society at the meeting of July 5th, 1902.

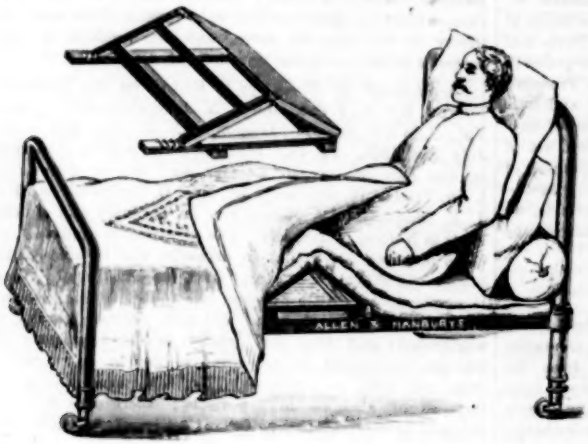
New Inventions.

A NEW BED-REST.

I SEND you a sketch of a bed-rest which I have devised for the purpose of keeping a patient permanently "propped-up" in the bed. The difficulty of keeping anyone in this position for any length of time is well known to the medical profession and still more so to the nurses. A heavy and helpless patient has to be dragged up in the bed repeatedly, both for his own comfort and it may be for vital reasons, and the tax on the strength of the nurses, to say nothing of the patient, is enormous, for it must be remembered that the heavier the patient the more rapidly he settles down in the bed, despite all the appliances hitherto used.

The sketch, I think, speaks for itself, but it may be mentioned that the apparatus is intended to be placed *beneath* the mattress and that the part which supports the backs of the thighs is made of wire to give spring and, therefore, comfort. When placed in position this contrivance converts *any* bed practically into a Bombay lounge. Its various uses will at once occur to anyone; in fact, in every case where a bed-rest has hitherto been ordered and has after a few hours' trial been discarded as useless, its convenience will be experienced. Personally, I have never known a bed-rest to be used for more than a day, but I have seen the above invention used for seven weeks continually in a very severe case of rheumatic fever with pericarditis and endocarditis, and as my patient has recovered with an absolutely sound heart (which fact I believe to be due to the constantly raised position) I can with a certain confidence recommend it to the profession generally. In conclusion, I have to say that the bed-rest is called the "Sister Doris" and that it is made by Messrs. Allen and Hanbury of Wigmore-street, London, W.

GEORGE W. ORD, M.R.C.S. Eng., L.R.C.P. Lond.
Richmond.



Looking Back.

FROM

THE LANCET. *SATURDAY, JULY 31,* 1824.

ROYAL ACADEMY OF MEDICINE.

Sitting of the 11th of March.

M. BECLARD presented to the Academy, in the name of M.M. DUBOIS and BELLIVIER, a fœtus which had remained seven years in the womb of the mother. It was contained in a bag situated on the left side of the uterus. It appeared to be transformed into a kind of adipose substance, resembling the fat of dead persons.

Sitting of the 25th of March.

M.M. RICHERAND and JULES CLOQUET exhibited one of the patients from the hospital St. Louis, whose inferior extremities could be lengthened or shortened, when the man liked, to the extent of three or four inches. From several pathologico-anatomical observations, it was judged that this affection arose from a destruction of the heads of the thigh bones, and from erosion of the parietes of the cotyloid cavities. The patient is fifty years of age, walks with extreme difficulty, but without pain. Whilst resting the body on either limb, it becomes shortened, and the trochanter major touches the crista of the ilium; but when, on the contrary, he raises it, it elongates and returns to its natural size. In this same patient there are several exostoses in different parts of the pelvis, and numerous large osseous tumours in the substance of the muscles.

HYDROPHOBIA.—We regret that in none of the numerous instances of hydrophobia which have lately occurred in this country, has the plan so strenuously recommended by M. MAGENDIE, (injection of water into the veins) been tried. The ordinary remedies, such as blood-letting, opium, &c. so seldom afford any relief in this dreadful disease, that we are surprised that a mode of treatment so simple as M. MAGENDIE'S, and which holds out a chance of cure has not received a fair and impartial trial. From the publicity which M. MAGENDIE'S case received, there can scarcely be a professional man in the country who is not acquainted with it, and we therefore entreat medical men to try the injection of water into the veins in any case of hydrophobia which may come under their notice. Some blood ought to be abstracted from the arm previously to the injection of the water, and the water should be injected in a luke warm state.

THE LANCET.

LONDON: SATURDAY, AUGUST 2, 1902.

The British Medical Association: The President's Address.

IN bidding the British Medical Association welcome to the town in which it holds its annual meeting the President for the year usually finds an interesting topic for his opening address in the medical history of the locality acting as host to the Association. Mr. WALTER WHITEHEAD has done so this year and in Manchester he had a fertile and suggestive subject ready to his hand. The history of Manchester is for the most part modern history. It is the history of a city bound up in the minds of men with the progress of modern manufacture, modern commerce, and modern political opinion. In political history Manchester is closely associated with the great struggle for financial and fiscal reform that marked the early part of the last century, and it is interesting to note that its right to Parliamentary representation dates only from 1832, the year in which the British Medical Association, now its guest, was founded. Before the Reform Act in that year did away with a state of things which to us, only 70 years after, seems almost beyond belief, the appearance of Manchester in the House of Commons had been restricted to the presence of two Members in CROMWELL'S Parliament of 1654, one of whom, CHARLES WORSLEY, carried out the Protector's celebrated mandate to "Remove that bauble." We need hardly say that during the time preceding the great Reform Act Manchester was already a huge commercial centre, while pocket boroughs with a dozen voters were returning Members to Parliament. With the general and political history of Manchester Mr. WHITEHEAD'S address naturally did not deal, nor need we do more than remind our readers of the part played by Manchester politicians in developing the greatness and securing the liberty of which the nation is justly proud. But we think that such a reminder is called for, as without doubt the progress of medicine and civil arts has followed hard on the increased political freedom in the securing of which the politicians of the Manchester school played so vigorous a part.

The city which is associated with the names of COBDEN and BRIGHT, and therefore with the preaching and practice of doctrines of peace, retrenchment, and political freedom, was not likely to be behindhand where scientific progress was concerned and where the physical welfare of a large and industrious population was also involved. In such circumstances we find without surprise that the Royal Infirmary at Manchester had its origin so far back as in the middle of the eighteenth century and that it is reckoned to be one of the oldest—possibly the oldest—of all Manchester's great public institutions. It owed its foundation to the generosity and public spirit of two gentlemen named CHARLES WHITE and JOSEPH BANCROFT, but soon the small house that they had fitted up proved too small; but the importance of their enterprise was appreciated by the community, so that three years later, in 1755, a wing was added which provided beds for 40 patients, and other additions followed in due course. Mr. CHARLES WHITE, who was the first surgeon associated with the infirmary, had begun his career in London, and was a friend and fellow-student of JOHN HUNTER. It was more than half a century later when the need for a medical school at Manchester was supplied through the energy of Mr. THOMAS TURNER, who appears from Mr. WHITEHEAD'S address thus to have founded the first great provincial medical school in England and to have done so at the very time at which Manchester was most agitated by the political strife and unrest associated with, and exemplified by, the outrage of "Peterloo." The history of medical education at Manchester, its later connexion with the great modern instrument of general education in that city, the Owens College, and the growth of the importance of the latter through the union with it of the Manchester School of Medicine, can be traced by those who pursue the subject in Mr. WHITEHEAD'S address as printed in our columns, should they not have heard him deliver it at the meeting of the British Medical Association. We must congratulate Mr. WHITEHEAD on the completeness with which he has studied the interesting subject.

The most modern development with which Mr. WHITEHEAD found himself confronted was no doubt the prospect of Manchester becoming in the near future the home of a university. This has been its ambition for more than two and a half centuries. It petitioned the Long Parliament for a charter in 1641 and its petition was opposed successfully by York, which city put forward rival claims. After the Owens College had established itself upon a firm basis and the advantages had been recognised that are obtained by placing education of a high class within the grasp of those who cannot afford to go far afield to seek it, Manchester again sought a charter for a Manchester University. When difficulties arose, due again to rival claims of other north country towns, the Victoria University was founded as a compromise. Birmingham has now a separate university and Mr. WHITEHEAD observes that "a federal university has served its turn and higher education in Manchester has reached a stage when a local university has become not only a necessity but a legitimate one." No Manchester man is likely to dissent from this view, though we are not quite sure that the question of the value of local universities has received due attention from people not locally concerned. The excellent work which has been done at the Owens College and the admirable facilities for education existing in Manchester, whether for training in medicine and surgery or in those other subjects which should be included in the curriculum of a university, are admitted, while the foundation of a Manchester university is a fact almost accomplished.

The British Medical Association: The Address in Medicine.

THE most valuable feature which reasonably may be looked for in an authoritative address upon any practical subject is a summary of what has been done with regard to

that subject in the past and a deduction from this of what ought to be done in the future. Reading the Address in Medicine, which we publish on another page, with some such expectation in our mind, we may well congratulate Sir THOMAS BARLOW upon the manner in which he has demonstrated the recent advances in medicine, and still more upon the emphasis with which he points out the direction in which help is necessary if such advances are to be pushed further in the future. All the world is aware of the strides which surgery has made along the roads which modern science opened to its enterprise. Every layman can preach on the changes wrought by the antiseptic principles of Lord LISTER. The advance of medicine, less striking to the ordinary individual though scarcely less radical to the cultivated mind, is apt to be overshadowed by the almost sensational progress of its sister art, and it is well, therefore, that a physician of such practical attainments as Sir THOMAS BARLOW should set himself to demonstrate the benefits which the practice of medicine reaps, and is still likely to reap, from the acquisition and application of scientific knowledge. Sir THOMAS BARLOW takes as his text the thesis that "the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease." The diseases with which he illustrates his contention are well chosen. First comes diphtheria—a complaint in which, perhaps more than in any other equally formidable, the modern science of bacteriology has rendered possible an accuracy in diagnosis and an efficiency in treatment that were wanting in all the sagacity and all the insight which a less instructed generation of practitioners was able to bring into play. Bacteriological examination renders an early and positive diagnosis frequently possible, and the antitoxin treatment provides us with a remedy which, if opportunely employed, enormously reduces the fatality of diphtheria and is harmless when exercised upon doubtful cases where its use is not actively beneficial. Moreover, as Sir THOMAS BARLOW points out, in the case of diphtheria, as in other instances, a scientific knowledge of the true cause of the disease and of the manner in which it acts enables us to dispense with vigorous measures suggested by a tentative empiricism—measures which in the case of diphtheria took the form of strong local applications and were not only needless but often productive of real harm. As further examples of diseases in which scientific investigations have rendered specific remedies or adequate preventive measures either accomplished facts or matters of the highest probability Sir THOMAS BARLOW instanced rabies, smallpox, cholera, plague, and typhoid fever. Later in his address he alluded to malaria and to tuberculosis. When such a list of formidable diseases is contemplated, and when the difference is appreciated between the doubtful manner in which their arrest was attempted by our predecessors and the precise manner in which this aim is to-day to a great extent attained, the most sceptical of medical men may well feel the fires of hope burning within his breast. When he touched upon nervous disorders Sir THOMAS BARLOW probably put his finger upon the inevitable counterpoise which for ever weighs on the other side against the rising scale of general freedom from disease. Medicine is engaged upon an endless combat with endless foes. One disease is banished from our midst, hydra-like another dread disorder rises in its place. To-day it seems as though while sanitation and bacteriology were defeating the enemies which preyed upon lung and alimentary canal the ranks of disease are to be recruited from foes whose stress falls chiefly upon the brain and upon the spinal cord. That the fight against this ever-renewed army of diseases may be vigorously and successfully carried on we need the well-filled ranks of medical men whose training fits them with every weapon which science and experience have forged. Money and endeavour, private and municipal, must be forthcoming to train these soldiers and we most heartily commend to the attention of our readers the concluding portion of Sir THOMAS BARLOW'S address in which he lays stress upo need for these assistances.

The Medical Officer of the Ballachulish Slate Quarries.

A DISPUTE involving questions of great interest to a considerable section of the medical profession has arisen at the Ballachulish slate quarries in the West of Scotland. These quarries occupy a remote position on the sea-coast of Argyllshire, an extensive county, mountainous in every part and possessing but few towns, the largest of which, Campbeltown and Dunoon, have each of them populations barely exceeding 10,000. About two years ago the Ballachulish Slate Quarries Company, which employs about 400 men, appointed Dr. LACHLAN GRANT as the medical officer to the company on an agreement one of the clauses of which was to the effect that the appointment might terminate with a month's notice on either side. Dr. GRANT seems to have been well liked by the quarrymen and everything appears to have gone well, so that much surprise and indignation were expressed when it became known in the neighbourhood on July 5th that the medical officer was dismissed from the service of the company without any reason being alleged or any explanation being given.

The sequel, as related in the columns of the *Glasgow Herald*, the *Oban Telegraph*, and the *Highland News*, abundantly showed the esteem in which Dr. GRANT was held in the district. A petition for retaining his services was at once drawn up and largely signed, and a mass meeting of the men, presided over by Dr. W. DUNLOP ANDERSON of Ardsheal, a retired medical man and a landowner in the immediate neighbourhood, was held on July 8th. At this meeting resolutions were unanimously passed expressing entire confidence in Dr. GRANT and regret at the action of the directors of the company, also requesting them to reinstate Dr. GRANT and urging the desirability of giving the men a voice in the election or dismissal of the medical officer. These resolutions and the petitions were at once forwarded to Mr. BRUCE LOW, 43, York-place, Edinburgh, the company's secretary. The directors met on July 11th and on July 14th it was made known that they had confirmed their former decision, thereby disregarding the petition from Ballachulish. On July 15th a second very enthusiastic mass meeting of the men was held. Dr. ANDERSON, who again presided, expressed

his regret at the action of the company and advised the men to reconstitute their medical committee which already existed and had been consulted by the company with regard to Dr. GRANT'S appointment but not with regard to his dismissal. A medical committee of nine members was accordingly elected and the following resolution was passed, a copy being at the same time sent to the company's secretary :—

The medical committee, unanimously elected at a mass meeting of the employés of the Slate Quarry Company on July 15th, 1902, having learned with deep regret and surprise that the petition signed by over 400 names and the resolution of the employés in favour of Dr. Grant has been ignored by the directors and that they still insist in terminating his agreement, do hereby reserve to ourselves the right of appointing our own medical officer, and hereby give notice, on behalf of the employés, that we will allow no deductions to be made from our wages on behalf of any doctor not appointed by us.

This brings the legal aspect of the case into prominence. The directors who, we are ready to believe, have acted in complete good faith but upon faulty information have no doubt, had the law on their side up to now ; but everyone knows what changes of feature objects and occurrences may undergo according to the light that is thrown on them. The possibility of a fresh complication is suggested by the fact that Dr. GRANT is described in the Medical Directory as being not only medical officer to the slate quarry but also Poor-law medical officer of the locality. Dr. GRANT'S agreement with the company contained the usual proviso that after quitting its service he should not practi-e in the neighbourhood, but Dr. GRANT is now a public officer bound to practise in the neighbourhood in discharge of his official duties. Will Dr. GRANT be able to reconcile his obligations to the slate company with his obligations to the poor of the parish ? The point is one that he will soon have to decide, and for our part we think that if the parish council wishes him to continue in office as its Poor-law medical officer he will be morally right in continuing the discharge of his duties as such.

There is another aspect of the case which the community should not lose sight of, and which should be brought at once, if it has not been already, before the directors of the slate company. If Dr. GRANT goes in such circumstances as those which we have narrated his successor will be hard to come by. It will be our duty to warn medical men against accepting the appointment of medical officer to the ballachulish slate quarries until Dr. GRANT'S dismissal is explained, and as long as the quarries have no medical officer the district will have no Poor-law medical officer. Of course, if Dr. GRANT has forfeited his right to his position the directors are bound to discharge him, but every opportunity should be given him of answering all accusations, otherwise the position of medical officer to the quarries is clearly one that cannot be held with safety by any medical man. For no young medical man should ever take a post where it might be open to a small clique to bring charges against him in such a way as to put the stigma of dismissal on him without his even being heard in his own defence.

NEW SEWAGE WORKS.—On July 24th the new sewage works for the city of Wells, Somerset, were formally opened by the mayor. The septic tank system has been adopted The works are situated about one and a half miles from the town and the estimated cost is about £5000.

Annotations.

"Ne quid nimis."

THE KING'S HEALTH.

WE are glad to be able to report that the King's health continues to be completely satisfactory. In every way he has made, and is making, good progress. In convalescence after acute illness necessitating a serious surgical operation some unforeseen accident may always occur. But the King has the best safeguards against any such unfortunate event in the unremitting attention of his medical attendants and in his own virtues as a brave and docile patient. In view of presentiments and rumours that were rife in London at the beginning of the week, and which though quite vague seem to have produced a strong impression in many quarters, we take this opportunity of stating that there need be no apprehension as to His Majesty's ability to go through the Coronation ceremony on the appointed date.

LORD KITCHENER'S DESPATCH.

THE publication on July 29th last of Lord Kitchener's despatch on the South African war may be regarded as the last and concluding one of the series. The campaign has been very remarkable in many ways and it has been conducted under so many new and such exceptional conditions as to be unique in the annals of military warfare. If South Africa has been the birthplace of many reputations it has also been the graveyard of some that had been already made. Such are, however, and must always continue to be, the fortunes of war. As Lord Kitchener takes care to point out, it may be that, notwithstanding all his circumspection, the names of some may be omitted from his despatch who have rendered equal, or even better, service than those who have been mentioned. As regards the medical department it would be difficult to estimate the comprehensive, responsible, and laborious nature of its task. Taken as a whole and compared with other branches of the service, can anyone deny that its work has been admirably done and that the officers of the Royal Army Medical Corps, those of the Colonial corps, the civil surgeons, and, indeed, all who participated in the care of the sick and wounded throughout this long and arduous campaign, are not well deserving of national gratitude and reward? This is not, however, the time, nor is there really any need, to vindicate the conduct of the medical services or to point out that the medical officers in South Africa were not, and could not justly be held to be, responsible for the occurrence of diseases arising out of conditions in which they found themselves placed and over which they had no sort of control. Surgeon-General Sir W. D. Wilson, M.B., K.C.M.G.—as our readers are aware—has throughout the war, as the principal medical officer, borne a great weight of responsibility. By his wise, patient, and very able administration he has well earned all the respect and esteem in which he is held; and he was thoroughly well served and aided in his work by Surgeon-General W. H McNamara, M.D., C.B., C.M.G. But it is only a special jury, as it were, of the medical profession that can appreciate the quality of such services as these; it is, unfortunately, beyond the scope and province of any general officer, however eminent, to do so in a way adequate to the occasion. We heartily congratulate all of those whose names have appeared in Lord Kitchener's despatch, extracts from which will be found in another column of THE LANCET.

EGYPTIAN MEDICAL CONGRESS.

THE following gentlemen have consented to join the committee in England on behalf of the Egyptian Medical

Congress which will be held at Cairo on Dec. 19th–23rd next. Special facilities and reduction in fares are arranged for members desiring to be present at the Congress. Anyone wishing for further information should apply to any member of the committee or to the honorary secretary, 9, Manchester-square, London. List of the committee: Sir Lauder Brunton, Mr. Watson Cheyne, Sir William Church, Bart., Mr. Reginald Harrison, Sir Victor Horsley, Dr. Stephen Mackenzie, Sir Douglas Powell, Bart., Dr. George Savage, Sir Thomas Smith, Bart., Dr. James Taylor, Sir Frederick Treves, Bart., and Dr. W. Page May (honorary secretary).

MUNICIPAL MILK DEPOTS FOR HAND-FED INFANTS.

A COMPARISON of the death-rate of infants under the age of one year with that of the general population reveals the important fact that whereas the latter is steadily decreasing the former is increasing, thus comparing two decennial periods, the annual death-rate per 1000 persons living, from 1881 to 1890 was 19·1, and the rate from 1891 to 1900 was 18·2, whereas the mortality rates per 1000 infants under a year old for the same periods were respectively 142 and 154. In these circumstances the great increase in the custom of feeding infants artificially instead of by the natural process of suckling requires careful consideration, especially since a very considerable proportion of deaths of infants are returned as due to gastro-enteritis, marasmus, wasting, and other conditions directly or indirectly connected with the alimentary tract and digestive processes. It is, moreover, certain that very general ignorance prevails as to the process of "humanising" cow's milk for infant feeding and as to the quantities necessary at different ages, not only among the poor but even among the well-to-do, and the very extensive and unnecessary use of patent foods for young infants is an evidence of this. In France, owing to the extreme importance of this question in relation to the maintenance of the population, early attention was directed to it by hygienists and philanthropists. As long ago as 1891 Dr. Leon Dufour started an institution for the supply of sterilised humanised milk for infant feeding. This was called "La Goutte du Lait." Havre, Rouen, Paris, and many other French towns adopted the system with beneficial results. Similar institutions have in the last three years been started in certain English towns. The first was St. Helens, where Dr. F. Drew Harris introduced the system in the summer of 1899. Liverpool afterwards followed and now has two such milk depôts, and similar ones have been started at Ashton-under-Lyne and Dukinfield. In the county of London the first depôt has been started by the Battersea Borough Council during the last two months at the suggestion of Dr. G. F. McCleary, the medical officer of health of the borough. The depôt is at 28, York-road, Battersea, and at present as many as 400 infants can be supplied. The price charged to the parents for the full weekly supply is 1*s.* 6*d.*, or for one day 3*d.* The milk is supplied in stoppered bottles, each containing one feed, suited to the age of the infant, and the day's bottles (six, seven, or nine in number, according to the age) are fitted into wire baskets conveniently shaped for carrying. Rubber teats which can easily be cleaned are supplied to fit on to the bottles and directions are given not to remove the stoppers until the bottle is required for a meal, when it is to be warmed, then opened, and the teat put on. The preparation of the milk is as follows. The milk (guaranteed free from chemical preservatives) is received directly from a farm in the country which is always open to inspection by the medical officer of health of the borough. It is then humanised by the addition of water, cream, and lactose in the requisite proportions (these are given in a leaflet distributed from the depôt). Afterwards it is put into the bottles which have been cleaned and scalded by special apparatus, and subsequently into a steam steriliser and there kept at boiling point for 15 minutes. The milk so treated shows no scum, has practically the normal taste, and is much more palatable than is boiled milk. Battersea may be congratulated on this attempt to deal with a very serious problem, and it may well be hoped that this and similar depôts may serve the wider purpose of diffusing a knowledge of the right composition of an infant's diet when for any reason hand-feeding is a necessity.

"THE MIASMA OF APPREHENSION."

MR. WYNDHAM, the Chief Secretary for Ireland, in the course of a debate in the House of Commons on July 23rd, used a metaphor which is worthy of note. The sentence in which it occurs is quoted in a leading article in the *Times* as being a good description of the present condition of affairs in Ireland. "The union," said Mr. Wyndham, "must become intolerable and any development of self-government must remain impossible unless and until the desolating process of social proscription with its attendant miasma of apprehension which penetrates to and paralyses every nerve centre of national life be repudiated by the good sense of the people and suppressed by the power of the Government." This peroration appears to have brought down the House, as the players have it. "Miasma of apprehension" is a little old-fashioned. Microbes have taken the place of miasmata. We have heard of the microbe of fatigue. Why not the microbe of apprehension? The notion that a miasm should penetrate to a nerve centre is hardly in accord with modern teaching. On the other hand, the paralysis of nerve centres by microbes or their products is one for which Mr. Wyndham might obtain the support of men of science. The Irish Secretary has been practically guilty of a pathological anachronism, for miasmata belong to the days when atmospheric and telluric influences were supreme and a knowledge of nerve centres is modern. We ought, perhaps, to congratulate ourselves that we have a Minister who has so much as heard that there are nerve centres.

QUACKS AND ABORTION.

WILLIAM HOLLIS, an old man who was sent to penal servitude for life by Mr. Justice Wright at Stafford on July 21st, has manifested throughout his long life an extraordinary ardour for a particularly revolting crime. Convicted at Stafford 30 years ago of committing criminal abortion he was sentenced to 10 years' penal servitude. Immediately upon being set free he committed a similar crime with the terrible result of death to the unfortunate girl. He was this time convicted of murder and condemned to death, the sentence being commuted to penal servitude for life. On release, after serving a term of some 20 years, he at once recurred to his detestable method of earning a livelihood, describing himself as a "chemist" and the possessor of unfailing medicinal preventives of pregnancy. At the advanced age of 74 years he has now returned to penal servitude for life. What a comment upon modern civilisation such a career forms! While we are on this subject we must refer, as we have frequently referred before, to the extraordinary impetus which certain newspapers seem willing to give to crime. As journalists it is distasteful to us to find ourselves criticising in an adverse manner the tactics and methods of our contemporaries, but we still regret to observe, more than occasionally, the insertion of advertisements which are a direct invitation not only to sexual immorality but to criminal abortion. Pills and potions are still advertised which "remove all obstructions," and nostrums to restore the menstrual flow are purveyed through the agency of

journals with a family circulation. As every medical man knows, the commonest cause of obstruction to the menstrual flow is pregnancy, while it should be obvious even to laymen that the removal in such a case of obstruction to the flow means the performance of criminal abortion. We consider that the papers which insert advertisements of such "female remedies" are earning dirty money. As a matter of fact, the remedies are generally inert, although occasionally death follows their use; but they are bought by women in the hope that their ecbolic action will be effective. Either the woman is helped to a crime when she buys them or she is swindled out of her money. Since the publication of our series of articles in 1898 and 1899 entitled, "Quacks and Abortion," these advertisements have been much fewer, but they still appear. That the trade in abortifacients, pretending to be emmenagogues, will altogether cease, or that no newspaper will be found ready to make a disreputable profit by advertising such wares, is, perhaps, too much to expect until a prosecution has been undertaken against some journal wherein a more flagrantly outspoken advertisement than usual has appeared. If undertaken with success, such a prosecution would, we believe, stamp out all these invitations to crime, and with their extirpation the trade in abortifacients would be reduced to a minimum.

ORAL SEPSIS AND ITS RELATIONS TO GENERAL DISEASE.

THE July issue of the *Journal of the British Dental Association* contains a paper by Mr. J. F. Colyer dealing with this interesting subject. The writer groups together the various affections in which a relationship between oral sepsis and general disease has been traced and points out that the subject is one in which much more work, clinical, bacteriological, and chemical, must be done before a correct idea can be formed of the exact relationship which does exist. He points out that there are but few really well-recorded cases, the exact oral condition being seldom adequately described, and he utters a word of warning against too hurriedly assuming that a septic mouth is the direct cause of some remote affection merely because the remote affection disappears on removal of the sepsis. In discussing chronic lymphadenitis he points out that although the statistics of different investigators present wide differences in the results obtained, they nevertheless demonstrate a close relationship between septic teeth and lymphadenitis and that it is probable that the bacillus tuberculosis may occasionally obtain entrance to the inflamed glands *vid* the septic teeth. A point of importance to which attention is directed is that teeth with partially formed roots cause more trouble than those with fully-formed roots. Some interesting cases are recorded in which gastric ulcers of long standing were cured by the treatment of the septic state of the mouth. In one case a woman, aged 29 years, was admitted to the Beckenham Cottage Hospital at Christmas, 1901, under the care of Dr. R. M. H. Randell. She was in a moribund condition and had vomited large quantities of blood, and the pulse, when it could be counted, was about 120. She was placed in bed on her back and a quarter of a grain of morphia was administered hypodermically. She was fed per rectum with nutrient suppositories and enemata of plasmon dissolved in water. A lead and opium pill of five grains was given by the mouth twice daily. At the end of three days the hæmorrhage ceased and water was given by the mouth. The mouth was in a fœtid state with pus oozing from the sockets of the teeth. As soon as the patient had sufficiently recovered an anæsthetic was administered and the mouth was cleared of all septic teeth. She made a rapid recovery and has had no recurrence of the gastric ulcer. In another case a female, aged 26 years, was admitted to the Beckenham Cottage Hospital in December, 1900, with the following history. For seven years she had suffered from symptoms indicating gastric ulcer; she had been in many hospitals, with invariably the same result—namely, recovery for a time followed by relapse. At the time of admission there was copious hæmorrhage. Her mouth was in a most septic state and all her teeth were removed. Immediate improvement resulted and there has not been the slightest return of gastric trouble. The writer of the paper points out that as recoveries so soon followed the treatment of the mouth it might be assumed that the gastric disturbance was the direct result of the septic mouth. In considering this question there are, he thinks, three points to keep clearly in mind: (1) that the present knowledge of the pathogenesis of gastric ulcer does not support the idea; (2) that in many cases of undoubted gastric ulcer the conditions of the mouth are normal; and (3) that in the cases which he records there is no direct evidence of cause and effect. In dealing with affections of the blood reference is made to Dr. William Hunter's work on "Pernicious Anæmia," and the writer remarks that in the cases recorded by that author it is very difficult to form a correct idea of the dental condition. Cases of chlorosis, Mr. Colyer considers, are occasionally traceable to absorption of septic matter from the mouth, and he remarks that it is interesting to note that septic absorption from the mouth may be a possible factor in the production of both pernicious anæmia and chlorosis, the one a disease due to destruction of the blood, the other a disease due to diminished formation of blood. Chemical and bacteriological examinations of septic saliva will very possibly show that the septic condition producing, or related to, the one differs from that related to the other. In remote affections due to absorption of bacterial products attention is directed to the frequent association of a condition of general malnutrition with a septic condition of the mouth and to the rapid improvement which is made by such patients after the removal of the sources of sepsis and before the adoption of artificial dentures. He considers these cases of general debility are in reality cases of chronic sapræmia. The possibility of the mouth being occasionally the focus of infection in obscure conditions such as acute osteomyelitis and malignant endocarditis is discussed and reference is made to two interesting cases recorded in THE LANCET of March 22nd, 1902, p. 807, by Dr. Bellei. Both were cases of general infection and in both cases the probable focus of infection was the mouth. In the first case the sequence was as follows: (1) a history of suppurative periodontitis and gingivitis followed by (2) a catarrh of the larynx and pharynx which subsequently assumed a suppurative type, probably by direct infection from the mouth, and (3) general infection from suppuration in the middle ear. In the second case the sequence was as follows: (1) suppurative periodontitis and gingivitis; (2) septic tonsillitis; and (3) general infection.

A PRIZE IN PHYSIOLOGY.

Professor Joseph Seegen has written a letter to the Imperial Academy of Sciences of Vienna in which, after a brief reference to the researches that have been undertaken by various observers to determine whether part of the nitrogen of ingested albuminates is eliminated in the form of gas from the system, the results of which have been contradictory, he states that he, in coöperation with Nowak himself, attempted to solve the question but now that he is advancing in years, and has had his attention directed to other subjects, he does not feel that he is competent to undertake an inquiry in which he feels the keenest interest. He therefore proposes to offer a prize under the auspices

of the mathematical and natural science class of the Imperial Academy for the best answer to the following question: Whether any part of the nitrogen of the albuminates which have undergone metabolism in the animal body is eliminated either by the lungs or by the skin in the gaseous form? The value of the prize so liberally offered by Professor Seegen is 6000 kronen, or about £210. The essays must be sent in before Feb. 1st, 1904, and may be written in German, French, or English. Here is an opportunity of distinguishing himself for one of the numerous workers at our great universities. Will no one take up the gauntlet?

EPSOM COLLEGE.

FOUNDER'S Day was celebrated at Epsom College on Saturday last, the chief prizes being presented by Sir Joseph Fayrer, Bart., the chairman of the council, in the unavoidable absence of the Bishop of Winchester, the Visitor of the college, who was to have attended, but who had received a Royal summons. There was a large attendance of parents and friends of the pupils, and amongst members of the council on the platform were Dr. Holman (the treasurer), Mr. Stamford Felce, Mr. H. W. Kiallmark, Mr. W. A. Propert, and Dr. Sansom. In his review of the school year the head master, the Rev. T. N. Hart Smith, drew attention to the fact that no fewer than nine old Epsomians had fallen in the South African war, in memory of whom it was proposed to place a tablet in the college chapel. Amongst the distinctions gained since Founder's Day, 1901, may be mentioned an open science scholarship at Sidney Sussex College, Cambridge. After the distribution of the prizes Sir Joseph Fayrer gave a short address, prefacing his remarks by observing that although during a long life he had found himself in some strange positions that was the first occasion upon which he had been asked to take the place of a bishop. He laid emphasis upon the fact that Epsom College was not a "class" school and stated that boys were prepared, not only for the medical profession, but also for the army, the navy, and for commercial pursuits. As to the soundness of the education provided, that was proved by the successes won by the boys after leaving the college. At the conclusion of the proceedings the "Canticum Epsomiense" and the National Anthem were heartily sung, after which cheers were called by the head prefect for the council, the ladies, and the visitors.

CHOLERA IN EGYPT.

ON July 16th news reached the Sanitary Department in Cairo that several suspicious cases of vomiting and diarrhœa, six of which had proved fatal, had occurred in the little village of Mousha, near Assiout, in Upper Egypt. Mr. A. T. White, M.R.C.S. Eng., at once hastened there from Assiout and took all the necessary precautions in the event of the illness proving to be cholera. However, the fæcal matter which he sent to Cairo for bacteriological examination proved not to contain comma bacilli and it was at first hoped that the malady might prove to be ptomaine poisoning. But Mr. Graham, the acting head of the department, wisely decided to neglect no chances and sent up immediately Dr. C. Goodman to investigate the cases and the origin of the outbreak, and Dr. Dreyer with a bacteriological outfit accompanied by pumps for providing a pure supply of drinking-water. Mousha possesses no resident medical man, and as it is supplied with six wells from which the inhabitants drink it looked as if there could hardly be one common cause of contamination. But it is near Assiout, whence there is a caravan route from Kosseir on the Red Sea Coast, and there is no reason why cholera bacilli should not have been introduced in this way by pilgrims returning last month from the holy places. It must be remembered that in all previous cholera outbreaks in Egypt the poison has been introduced directly or indirectly by returning pilgrims. All necessary precautions have been taken in Mousha itself and everywhere else where cases have been discovered, for unfortunately individuals have already carried it with them to the Fayoum and to Cairo. In the capital there is the usual scare among those classes of the population who possess neither courage nor self-control. The English regiments have been marched out to the desert at the Pyramids and to Helwan, not because they already have cholera, but because it is quite a proper precaution to be taken in the circumstances. Major-General Sir R. Talbot, Colonel W. J. Fawcett, R.A.M.C., Principal Medical Officer of the Army of Occupation, and Sir H. H. Pinching, Director-General of the Sanitary Department, have decided to return to Cairo from leave and are now on their way there. It is to be hoped that the present anxiety will not last long, for the chief ally of sanitary officers, the Nile flood, is now due both in Assiout and in Cairo, and the experience of former epidemics shows that cholera in an epidemic form does not occur after the annual rise of the Nile. In 1883 cholera ended in Cairo in August, though it afterwards broke out in the neighbourhood of Alexandria, and on its last visitation in 1896 it yielded in August to the bountiful supply of fresh water. Therefore, if Egypt must be visited by cholera, it is better that the outbreak should begin in July instead of in the spring months as in former epidemics.

SIMULATION OF STRICTURE OF THE ŒSOPHAGUS BY ATROPHIC RETRACTION OF THE STOMACH.

AT the meeting of the Société Médicale des Hôpitaux of Paris on June 27th M. Maurice Soupault called attention to the fact that in atrophic retraction of the stomach the symptoms may closely simulate those of stricture of the œsophagus. The patients having suffered for months or years from gastric symptoms manifest difficulties of deglutition. First solids, then semi-liquid food, and, finally, liquid foods are swallowed with difficulty. Food taken slowly and in small quantities may be retained but when taken rapidly or in moderate quantities it is vomited. Sometimes the vomit contains both the food which has been just swallowed and also the residue of food taken previously. The patients do not complain of pain as in stricture of the œsophagus but rather of a feeling of epigastric weight. As a result of the dysphagia they rapidly waste, which confirms the supposition of organic obstruction of the œsophagus. But the largest bougies can be passed. If water is introduced into the stomach by a tube it is found that the capacity of the viscus is small and when the limit is exceeded vomiting is produced and the liquid flows back through the œsophagus and mouth outside the tube. This phenomenon is characteristic. The area of gastric resonance is reduced or cannot be found. In two cases M. Soupault felt in the upper part of the epigastrium a hard tumefaction—the retracted and thickened stomach. The food vomited shows none of the reactions of substances which have been in the stomach some time, for the secretion of gastric juice is suppressed. The anatomical condition always found was great reduction in the capacity of the stomach from retraction and thickening of its walls. Of four cases examined there were infiltrating cancer in three and cicatricial sclerosis due to corrosive poisoning in one. The following case is an example. A woman, aged 56 years, entered hospital complaining of dysphagia. For four months she had had pains in the stomach which came on immediately after taking food and were sometimes followed by vomiting. After the first month she could not take solid food. When she ate she felt 'weight at the pit

of the stomach; the food was vomited in about half an hour. Liquids at first were better tolerated but in the end they were also vomited. She rapidly wasted. When she entered hospital she was greatly emaciated and refused all solid food. Liquids which were taken were vomited in small quantities. As her appetite was well preserved she constantly made attempts to take food and spent the whole day vomiting. The vomit was of neutral reaction and milk was returned not curdled. Stricture of the œsophagus was suspected but a bougie could be passed into the stomach. In the epigastrium tympanitic resonance could not be obtained; a diffuse induration was felt which was attributed to muscular resistance. The patient became weaker and weaker and died after 25 days' residence in the hospital. The necropsy showed that the stomach was very small and formed a mass at the upper part of the epigastrium; its walls were thickened and sclerosed. There was infiltrating cancer which extended through the whole viscus from the cardia to the pylorus. The œsophagus was permeable. M. Soupault related three other cases and quoted five more showing that atrophic retraction of the stomach may simulate stricture of the œsophagus. The differential diagnosis can always be made by passage of a bougie.

A CRUSADE AGAINST SPITTING.

THE Public Health Department of the City of London is embarking upon a crusade in which it will have the sympathy of every decent man and woman and equally, it is to be hoped, the active support of public bodies and large employers of labour. The department has issued a circular asking for coöperation "in preventing so far as possible the growing habit of spitting in the streets and other places of public resort." The objectionable nature of this practice on grounds of ordinary cleanliness need not be emphasised. It becomes painfully obvious to all who travel by public conveyances and who some day or other have the misfortune to be to windward of the careless expectorator of the omnibus-top. Nor need we lay stress upon the serious import as a means of spreading tuberculous infection that indiscriminate expectoration bears in public places. Our readers are well aware that, whatever may be the result of the commission inquiring into the power of infected food to spread tubercle amongst us, there is no doubt in the mind of any authority upon the subject that the most formidable vehicle of infection of all is the sputum of tuberculous persons. The Public Health Department of the City of London very rightly draws attention to this in its circular and appeals to employers of labour to assist the corporation in attempting to remedy the nuisance by directing the attention of employés to the evils of the habit and to the importance of suppressing it. The whole question is really one of educating the public. It is not essential to anybody's comfort or safety that he should expectorate freely into the air or on to the ground about him. When all his fellow men and women realise this they will taboo the indiscriminate expectorator. At present his performance is regarded largely as a matter of course. The working man or woman by his side knows nothing of the possible danger and is not yet "nice" enough to deplore the nastiness of the casual expectoration of a neighbour. Our medical readers can more than any other class of men assist public bodies in the education of the public mind in this matter. We are glad to see that the City of London is not alone in taking, or even the first to take, the field against expectoration in public places. The interim report of the National Association for the Prevention of Consumption and other Forms of Tuberculosis (July 14th) shows that, in consequence of the activity of the association, already both in Glasgow and in Liverpool the corporations have inserted a clause in their by-laws making spitting on the municipal tramway cars a finable offence. The metropolis in many similar matters is wont only to follow instead of to lead the steps taken by other cities. It is to be hoped that it will not be long before the example of Liverpool and Glasgow in this matter is widely followed in the public conveyances of London.

CONGRESS OF THE SANITARY INSTITUTE.

THE nineteenth Congress of the Sanitary Institute will be held in Manchester from Sept. 9th to 13th, when the Right Hon. the Earl Egerton of Tatton will preside. From the preliminary programme which has just been issued we notice that there will be three general addresses—namely, the Presidential Address, the "Lecture to the Congress" to be delivered by Mr. W. N. Shaw, D.Sc., and the "Popular Lecture" to be delivered by Sir W. J. Collins, F.R.C.S., L.C.C. There will be three sections meeting for two days each. Section 1: Sanitary Science and Preventive Medicine, President, Sir James Crichton Browne, F.R.S. Section 2: Engineering and Architecture, President, Sir Alexander Binnie. Section 3: Physics, Chemistry, and Biology, President, Professor Sheridan Delépine. Conferences will be held of municipal representatives, port sanitary authorities, medical officers of health, engineers and surveyors, veterinary inspectors, sanitary inspectors, as well as conferences on Domestic Hygiene and the Hygiene of School Life. In practical illustration of the application and carrying-out of the principles and methods discussed at the meetings a health exhibition of sanitary apparatus and appliances will be held and there will also be excursions to places of interest in connexion with sanitation. Conversaziones and other social gatherings will also form a feature of the congress. The local arrangements are in the hands of an influential local committee, presided over by the Right Hon. the Lord Mayor of Manchester, with Mr. J. H. Reynolds, Principal of the Municipal School of Technology, as honorary secretary.

ADIPOSIS DOLOROSA.

RECENT researches have shown that adiposis dolorosa—a condition in which great accumulation of subcutaneous fat takes place and in which the fat is often aggregated into nodules or lumps which are painful to touch and to pressure—is different from simple obesity and that definite changes in the peripheral nerves are present in this malady. Professor F. X. Dercum and Dr. J. McCarthy have reported in the *Philadelphia Medical Journal* of July 5th a case of this affection running a typical clinical course and terminated by erysipelas. At the necropsy the following interesting changes were discovered. The pituitary gland was the seat of an adeno-carcinoma. Interstitial neuritis was present in the subcutaneous fatty tissue, especially in the fatty "nodules." Free hæmolymph glands were present in the tissues of the body generally, and the spleen was the seat of an angioma. The subcutaneous fat showed "a peculiar cauliflower-like arrangement." Professor Dercum and Dr. McCarthy stated that in several of the cases of adiposis dolorosa in which necropsies had been made it had been found that the cerebral convolutions were atypical. They regarded this as an interesting coincidence probably without significance. In the discussion which followed the reading of the above paper at the American Neurological Association Dr. Putnam remarked that patients suffering from adiposis dolorosa showed various signs of defective or anomalous development—so-called anatomical "stigmata" of degeneration—as regarded their bodily organs or tissues. Dr. F. S. Pearce agreed that neuritis was present in the nerves contained in the fatty nodules, whereas in ordinary obesity such changes were absent. Professor Dercum and Dr. McCarthy stated that the pathogenesis of the disease was obscure and

its treatment unsatisfactory, and that much yet remained to be discovered in these directions.

A METHOD OF PHOTOGRAPHING PLATE CULTIVATIONS WITHOUT REPRODUCING THE SCRATCHES OF THE DISH.

IN photographing plate cultivations which have been made in scratched dishes the scratches are sometimes only too faithfully reproduced, interfering very much with the photographic detail of the cultivation. In valuable cultivations this is a source of considerable annoyance. Mr. Walter A. Mitchell, of the pathological laboratory at Cambridge, avoids the photographic reproduction of the scratches on the cultivation dish by putting a drop of cedarwood oil thinned with xylol on the bottom of the dish after it has been thoroughly cleansed with swabs of wool soaked, first, in hydrochloric acid and then in water. The oil is well rubbed in with the finger-tips. It is important that the oil should not be too thick and that it should be well rubbed in so that no scratches are visible. The best result is obtained when the oiling is done 20 minutes or so before the photograph is taken. We have received for inspection (1) a photograph of a gelatin culture in a dish which was purposely badly scratched and then thoroughly cleansed in the way indicated; and (2) a photograph of the same dish taken with the same lens, with the same stop exposure and lighting arrangement but with one-half of the dish oiled. The advantage of this simple method is obvious from the latter photograph, the scratches being quite eliminated. Every bacteriologist knows how easily cultivation dishes are scratched, and in research with mixed cultures it is impossible, as Mr. Mitchell points out, to duplicate a plate should it be scratched and a photograph of it be desired.

THE TREATMENT OF RELAPSING PLEURAL EFFUSIONS BY GASEOUS INJECTIONS.

AT the meeting of the Société Médicale des Hôpitaux of Paris on May 23rd M. Vaquez and M. Quiserne called attention to the value of gaseous injections in the treatment of recurring pleural effusions. Their method is directly derived from that of the late Professor Potain. It consists in producing an artificial pneumothorax which checks the incessant reproduction of fluid observed in certain cases of chronic pleurisy. They suppose that the mode of action is purely mechanical. The choice of the gas used depends on its greater or less absorbability rather than on any antiseptic power. The following case is an example. In January, 1902, a man had been under treatment for left tuberculous pleurisy since May, 1901. Paracentesis had been performed 12 times, 1000 to 1500 grammes of fluid being removed on each occasion and the effusion being reproduced in from three to five weeks. The general condition of the patient was not bad; he had no fever and took food well. He could go about except during the eight or ten days preceding paracentesis, when increasing dyspnœa kept him in bed. On Jan. 7th a litre of serous fluid was removed. On the 21st the effusion was reproduced and a litre of fluid was again removed, and with the apparatus devised by Professor Potain about three-quarters of a litre of air were injected. The pleura was evidently very thick and hard, for it offered great resistance to the passage of the trocar. An hour later the temperature was elevated to 104° F. and the patient felt ill, but in the evening the temperature returned to normal. Immediately after the injection all the signs of hydro-pneumothorax were present. Pneumothorax persisted until April 28th—more than three months. Only a small quantity of fluid at the base of the lung could be demonstrated. Further intervention does not seem to be necessary. In another case a man had tuberculous pleurisy which began in October, 1901. In March, 1902, paracentesis had been performed five times. On March 27th paracentesis was performed and three-quarters of a litre of sterilised air were injected. No reaction followed. Signs of pneumothorax lasted for two weeks. At the end of April the patient left the hospital greatly improved. For the injection of gas into the pleura a trocar connected with a Y-shaped indiarubber tube is required. One branch of the tube is connected with a Potain's syphon, the other remains free and is provided with an ampulla of glass filled with sterilised cotton-wool. Before use the tubes are carefully boiled. The free branch of the Y is clamped with an artery forceps while the paracentesis thoracis is performed. Then the forceps is transferred to the other arm of the Y and an air pump is connected with the free arm. Air is injected slowly into the pleural cavity and is sterilised in passing through the cotton-wool. If it is desired to inject any other gas that can be easily done from a bag filled with it. The quantity of gas to be injected depends on the amount of fluid withdrawn; in most cases half a litre is sufficient. The capacity of the pump being known the number of strokes of the piston shows the quantity injected. As to the question of the gas to be injected air appears to answer very well in the majority of cases. As shown in the first case it is slowly absorbed. But if the effusion is rapidly reproduced nitrogen, which is very slowly absorbed, may be used. It has been ascertained that after air is injected into a serous cavity only carbonic acid and nitrogen remain. The impermeability of the pleura to nitrogen is shown by a case of relapsing staphylococcic pleurisy under the care of M. Widal. After the injection of air the pneumothorax lasted only 10 days; after the injection of nitrogen, at least 25 days. M. Vaquez and M. Quiserne suggest that the injection of air into the pleural cavity may prevent by its mechanical action certain untoward complications of paracentesis thoracis, such as rapid extension of tuberculosis in the compressed lung after it is released from pressure.[1]

MENTAL DISEASE IN ARMIES.

IN a recent issue of the *Allgemeine Zeitschrift für Psychiatrie* (Heft 4, 1902) Dr. Ewald Stier furnishes interesting facts and statistics concerning the graver forms of nervous and mental disease in armies. In military statistics, writes Dr. Stier, a history of lues is almost invariably found to have preceded cases of tabes dorsalis and of general paralysis of the insane in officers. This is especially shown as regards the armies of France, Germany, and Great Britain. The observations of Dr. Stier regarding the almost invariable association of syphilis with general paralysis confirm the conclusions already arrived at by Rieger of Würzburg, and in this country by Dr. W. J. Mickle, concerning the not infrequent occurrence of these associated affections in military officers. In many, but not in all cases, adds Dr. Stier, other causes may also be found—viz., alcoholism and, to a less extent, trauma. Hysteria in males was a rare occurrence in the armies of Europe a quarter of a century ago, but now it is not uncommon, especially, according to Dr. Stier, in the armies of central Europe. The traumatic psychoses are found to reach a high proportion only during wars, the chief causes being cranial and other injuries caused by shot or shell, accidents, and shocks sustained in moments of intense cerebral excitement. Thus, in the course of the Franco-German war (1870–1871) the proportion of cases of traumatic psychosis in the German army reached to 13 per cent. of the total number of soldiers engaged in fighting. Medical statistics as regards armies are, in Dr. Stier's opinion, as yet very inadequately drawn up, but

[1] Galliard: Semaine Médicale, 1897.

this defect will, it is hoped, be soon removed, as a knowledge of nervous and mental disease and the passing of an examination in the same are now compulsory in the German army.

THE BENEFITS OF THE BICYCLE TO MEDICAL MEN.

MEDICAL men who have experienced the benefits of the bicycle may be glad to be reminded of the movement which has been started for the establishment of a memorial to the late Mr. J. K. Starley who introduced the "safety" bicycle in 1885 and who died last October. The secretary to the fund is Mr. R. T. Lang of 27, Chancery-lane, W.C., and any medical men who would like to express their appreciation of those benefits in a practical form are invited to communicate with that gentleman. Donations have been received from several notable persons, including the Prime Minister, the Right Hon. A. J. Balfour, M.P. The fund now amounts to about £200. There is no doubt that the bicycle is especially useful to the country practitioner whose patients reside miles apart. It is swift and inexpensive, occasions but little trouble, and has many advantages in these respects over the horse and carriage with their inevitable appurtenances. The modern medical man is enabled to carry a dispensary and surgery outfit within the compass of a bicycle knapsack. The medical man who needs a bicycle needs one which is thoroughly trustworthy, respectable, and reasonably priced. The bright parts should, if possible, be untarnishable, in order to thwart the small boy who never loses an opportunity or a pretext to hail the rider of a machine which fails to come up to his critical standard of refulgency with the epithet of "old iron."

WE have been informed of the army medical arrangements in connexion with the postponed Coronation of their Majesties on Saturday next, August 9th, and they do not differ greatly from those which we described as having been made for the Coronation at the original date (see THE LANCET, June 21st, p. 1789). The number of ambulance stations had been reduced from 18 to 12, of dressing-stations from six to five, and of field hospitals from 10 to six, while only four general hospitals—viz., St. George's, Charing Cross, St. Thomas's, and Westminster—are reserving beds for casualties of a severe nature among the troops. The abandonment of the second procession with its extended route accounts for all the changes.

Mr. M. H. Taylor, J.P., L.R.C.P., L.R.C.S. Edin., deputy coroner for the Kingston district of Surrey, has been appointed coroner in place of the late Mr. A. Braxton Hicks; and Mr. R. Henslowe Wellington, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed deputy coroner for the City and Liberty of Westminster and for the south-western district of London under the London County Council.

DR. A. E. SANSOM, having resigned the post of physician to the London Hospital, has been appointed consulting physician and has been unanimously elected by his colleagues a member of the London Hospital Medical Council.

THE KING has been pleased to appoint Sir Frederick Treves, Bart., K.C.V.O., C.B., F.R.C.S. Eng., one of His Majesty's Honorary Serjeant Surgeons, to be a Serjeant Surgeon-in-Ordinary to His Majesty.

WE are asked to state that medical men are required for plague duty in India. Application for appointments should be made to the Secretary, Revenue and Statistics Department, India Office.

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1901.

PART I. REPORTS.

THIRD AND CONCLUDING NOTICE.[1]

LEAD is not only the mineral poison which causes the greatest mortality amongst those engaged in factories and workshops, but there can be little doubt that of all metals it causes the greatest number of deaths amongst mankind in general. Plumbers and lead-painters who do not work in factories do not come under the care of the Home Office, and there are no trustworthy data to go upon to render it possible to make even an approximate estimate of the number of those who are slowly killed by the insidious action of lead. It is, nevertheless, certain that the records of the metropolitan hospitals show clearly enough that a very large proportion of the cases of gout and of granular kidney occur in painters and plumbers. The house-painter pleases himself as to whether he shall wash his hands before taking his meals and it is the business of no one to provide him with soap or with a nail-brush. In the case of the industries which necessitate working in lead in a factory or workshop the employés are under supervision. Of these industries a few words may be said. The smelting of lead has been found to be a particularly injurious occupation. At some small works near Dublin, of 12 men seven showed a blue line on the gum; five were anæmic; five had suffered, some more than once, from colic; three had weakness of the wrists, and in two of these cases loss of power "amounted to definite paralysis." Printers are usually mentioned as men particularly liable to suffer from plumbism, but it does not appear that the number of cases occurring amongst them is very great. In the year 1899 the number of reported cases amounted to 26, in 1900 there were 18, and in 1901 there were 23 cases. In the case of compositors more than one of the assigned causes of poisoning are removeable. It is said that some compositors put type in their mouths. This is not a commendable habit. It is stated, also, that when the type is getting low—that is to say, when there is little left in the type box—there exists a practice amongst compositors of shaking up the type and that this causes a fine dust of metal to be raised and inhaled. It is also stated that in some printing works no washing conveniences are provided and that, to quote the words of a report, "cleansing of the hands before meals is not done." File-cutters suffer from inhalation of lead dust. Tinners and enamellers have suffered much in the past, but it may be hoped that in the future fewer cases of plumbism will occur amongst them. In a case quoted in the report a manufacturer was using an enamel powder which contained no less than 67 per cent. of lead oxide. The work-people were evidently injured in health by its use. The manufacturer refused to alter his process. The inspector applied for a closing order—that is to say, an order from the magistrate that the whole business should be discontinued. An adjournment was applied for and granted and in the course of a few days an enamel free from lead and from arsenic was substituted for the injurious compound which had been previously used.

Workers in white lead have always been prominent amongst the sufferers from plumbism, but it is pleasing to note that the number of the cases is diminishing to a marked extent. The number of reputed cases for the years 1898, 1899, 1900, and 1901, was respectively 332, 399, 358, and 189. This rapid diminution in the number of cases cannot be expected to progress at the same rate, for the lessened incidence of the reported cases for the last of these years is chiefly due to improvements in the arrangements of two large factories in which, during the previous year, there had been an enormous number of cases. During the year 1900, these two firms had amongst their workpeople 111 and 62 cases respectively, and during the year 1901 the numbers were reduced to 58 and 16 respectively.

A considerable decrease has taken place in the number of cases of lead poisoning which have occurred in workers in the china and earthenware trades. The number of reported

[1] The first and second notices were published in THE LANCET of July 19th (p. 172) and 26th (p. 238), 1902.

cases for each of the four years from 1898 to 1901 inclusive has been 457, 249, 200, and 106 respectively. The medical inspector in his special report insists that no diminution in the cases of plumbism occurring in dippers, ware cleaners, and glost placers can be expected unless and until glaze of low solubility is used in the factories, nor can any improvement be hoped for in the case of ware cleaners until efficient fans are introduced to remove the metallic particles which are necessarily given off in the course of the cleansing process.

Glass-cutting is an industry in which the workers are subject to plumbism. The trade is not a large one and very considerable improvements in the conditions under which the work is carried on have of late taken place. There has been a great increase in the number of cases of poisoning amongst the makers of electrical accumulators—secondary batteries which serve for the storage of electricity. This is, of course, practically a new industry. In the year 1895 the number of workers was a little over 400, in 1896 it amounted to nearly 550, in 1897 it was 751, and in 1899 it was 1089. Unfortunately no statistics of later date are available. Dr. T. M. Legge, the medical inspector of factories, gives a very full and clear account of the process of manufacture of electric accumulators, of the special regulations in force in Germany in factories where these instruments are made, and recommendations as to rules which he suggests should be put in force in this country. There can be no doubt that the stringent regulation of this trade demands immediate attention. The number of reported cases of plumbism which have occurred amongst the operatives has greatly increased and in this particular case the experience acquired in Germany may very advantageously be utilised in this country.

It may seem at first sight rather curious that workers at factories of paints and colours do not suffer more than they do from lead-poisoning and it is rather surprising to learn that there are only 25 such factories in the country. During the year 1901 49 cases were reported and of these no less than 35 occurred in men engaged in mixing and grinding the pigments. Coach-making, it appears, still causes many cases of plumbism; 65 cases were reported during the year and 28 cases occurred in ship-builders. The medical inspector gives a table of the fatal cases. A somewhat similar table was published in the report for the year 1901 and it was then pointed out in THE LANCET that the table was "not sufficiently complete to make it of any clinical value."[1] It was hoped that so gently expressed a criticism might have been sufficient. The table given in the report for 1902, however, shows no improvement. It is incomplete and it cannot truthfully be called useful. The information which the table professedly gives in the case of each patient is as follows: sex, age, symptoms, duration of employment, and remarks. There were 33 fatal cases. Of these the duration of employment is in eight cases very roughly given as "many years," and in 10 other cases it is not given at all. Thus, in more than half the cases no definite information is given as to the length of time during which the patient worked in lead. There are some curious entries under the heading "Symptoms." For example, in one case the only information is "lead convulsions," in another "lead-poisoning," and in a third "plumbism, phthisis." Phthisis is a disease, not a symptom. Here again is an example of remarkable "symptoms": "violent syncope induced by appendicitis and accelerated by acute lead-poisoning."

The Chief Inspector's general report deals in some detail with the arbitration which was lately held in regard to the special rules drawn up by the Home Office to regulate the earthenware and china factories. Reports of this case have already been given and it is not necessary here to recapitulate the history of the proceedings, an account of which may be found on pages vii. and viii. of the report. The only point to which we need direct attention is the anomalous state of things which has been brought about in the regulation of this industry as a result of the administration of the Factory Acts. The facts briefly are these. 1. Under the award of Lord James of Hereford, the umpire in the arbitration case, the amended rules in regard to the trades are now in force in the works of 345 occupiers who appointed an arbitrator. 2. Another award in respect to 36 out of a total number of 46 manufacturers who objected to the rules but did not name an arbitrator was made in March; the award then made was in effect the same as that of Lord James. In regard to the 10 other cases no decision has been arrived at. 3. 153 manufacturers either did not object to the amended rules or withdrew their objections. In the case of these 153 firms the draft rules of February, 1901, are therefore legally in force. 4. There are 95 businesses in which rough ware is made under conditions different from those in use in the manufacture of ordinary pottery. On these firms the notices were not served and therefore, as Dr. B. A. Whitelegge, who apparently for once uses what may be called the "official gloss," has it, "these firms remain for further consideration." The report, however, shows in a most convincing manner that the officers of the Home Office are doing their utmost to place these dangerous trades under proper regulations and the fact that there has been some delay in doing so is no fault of theirs. It must also be pointed out that reforms of too radical a character often defeat their own ends and that the chief hope for lasting improvement is to be found in progressive improvements in the processes of manufacture. Such improvements are fittingly recognised by the Home Office and exemption from some of the general rules in force are granted in certain cases on condition that only materials free from lead are used in the factories.

A brief reference has already been made to Mr. C. R. Pendock's report on the fencing of machinery at the Paris Exhibition, 1900, but there are one or two points in regard to it which seem to demand further consideration. In his introductory remarks Mr. Pendock points out that the date of his visit was not altogether favourable to his mission; the most interesting exhibits were besieged by crowds, the regulations of the Exhibition prohibited the taking of notes and the making of sketches, and, further, the time chosen for the visit was so late that many of the principals of the firms of manufacturers had gone home. It is well known that the greatest courtesy and attention were bestowed by the French Government on foreign visitors, and it is certainly a matter for regret that the Board of Trade should not have sent its representative at an earlier period or made some special effort to ensure that he should have all possible facilities for seeing all that he wished to see. Another point is of more practical value, inasmuch as it has reference to the future. Mr. Pendock's report clearly shows that in the case of newly-invented machinery English manufacturers as a rule neglect to provide proper fencing until its necessity is insisted upon by the factory inspectors. This fact is so thoroughly proved that we are decidedly of opinion that the Board of Trade should without delay issue a circular to the chief manufacturers of machinery calling their attention to the matter. This is the first step which should be taken and it would undoubtedly be effective in many cases and would lead to the prevention of some of the more obviously unnecessary injuries and losses of life.

Attention has already been called to a most iniquitous illegality which is practised by cotton manufacturers. It is the custom of many of them to make their people work for a longer period than that allowed by the law. The time of the men is stolen and not paid for. The practice is called "time-cribbing." Mr. Richmond, the chief inspector for the north-western division of England, shows that the custom is deliberate and systematic and that "scouts" are placed to give warning by signals of the approach of any stranger who is suspected to be a factory inspector. Many prosecutions took place during the year 1901—438 in the north-western division—but although there was a conviction in each case the fines inflicted amounted to no more than £180 12*s.*, an average of about 8*s.* 3*d.* each. These fines are absurdly small and cotton capitalists must laugh at them. One of the Manchester inspectors, Mr. Sidney Smith, says that many firms think nothing of running their machinery illegally three, four, five, or more minutes at each starting and stopping time, and then he goes on to show the actual gain to the manufacturers by this piece of dishonesty. "Five minutes cribbed at each starting and stopping time amount to a total of 14 days of 10 hours per annum and this amount is practically stolen from those workers who are paid weekly wages." Mr. Crabtree of Oldham says that the majority of cotton mills crib time in that way and he adds "the scandalous part of it is that directors, managers, and overlookers all know of it." It appears to us that the chief inspector might very usefully publish each year a list of those firms which are convicted. If the statements made by the inspectors are accurate—and we have not the slightest reason to doubt

[1] THE LANCET, Oct. 12th, 1901, p. 1000.

their absolute accuracy—the directors of these cotton firms would be more fitly punished by imprisonment than by fine.

Felt-hat factories have been placed under special regulation as a result of an explosion in the Denton hat factory which killed 14 and injured 50 other people—a fact which convinced the manufacturers that their trade might not improperly be called dangerous.

The local sanitary authorities in many places still flagrantly neglect to carry out the duties with which they are entrusted. For example, at Nantwich where a large clothing trade exists, not only are the "sanitary conveniences" inadequate and unsatisfactory, but it has been conclusively proved also that it has been quite a common thing for clothing to be made up in houses in which some of the inmates have been suffering from scarlet fever. Mr. Sidney Smith of Manchester also reports that the sanitary conveniences in some of the cotton mills are "a disgrace to the community." They appear, in fact, to resemble those in use in English castles in the Norman period. A common system, he says, appears to be an ordinary brick tower extending from the top of the mill to the bottom, the conveniences are entered from the door opening directly into the workrooms, and are so situated that the excreta can fall down the tower into a large open midden placed at the bottom. Many examples of this style of jakes—(Mr. Smith calls them "closets," but this is evidently a misnomer)—have recently been found at Stalybridge, Hythe, Dukinfield, and Macclesfield.

A very remarkable example of money-lending in the North of Ireland has been brought to light by Mr. Snape. The cashier of a flax-spinning company was accustomed to lend to workmen the sum of 10*s.* on a certain date and on the next following pay-day (about 14 days after) he deducted from the workman's wages 12*s.* 6*d.*, the additional 2*s.* 6*d.* being for interest. The rate of interest charged, therefore, was about 650 per cent. per annum, an amount which would usually be considered somewhat excessive. This case appears worthy of the investigation of the senior Member for Northampton. The duty of seeing that the Truck Act is rendered operative must be no light one and the duty of aiding "voluble and incoherent female operatives" might perhaps with advantage be left as much as possible to the women inspectors.

The report on the work of the women inspectors is provided with a "table of contents," which serves as a sufficient index. The most interesting part is, perhaps, the account given of egg factories, as they are called, places in which foreign eggs are selected, pickled and kept, and finally packed for distribution. Broken eggs, we find, are deprived of their shells and put into tins and sold to confectioners under the name of "mélange." Broken eggs of more than doubtful character are mixed with salt and sold to leather-dressers. The lady who reports on this absorbing subject states that "in the winter season bad eggs are seldom met with," and this is, perhaps, not what may be called a matter of common knowledge nor is it a matter of universal experience. Many of the reports of the women inspectors are much marred by the terms in which they are written and the plethora of adjectives.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8658 births and 3976 deaths were registered during the week ending July 26th. The annual rate of mortality in these towns, which had been 14·3 and 14·5 per 1000 in the two preceding weeks, declined again last week to 13·9 per 1000. In London the death-rate was equal to 14·3 per 1000, while it averaged 13·8 in the 75 other large towns. The lowest death-rates in these towns were 3·2 in Hastings, 4·1 in Hornsey, 4·8 in Grimsby, 7·3 in Smethwick, 7·8 in Tottenham and in Preston, 8·1 in Leyton, and 8·3 in Newport (Mon.); the highest rates were 18·4 in Hanley, 19·2 in Great Yarmouth, 19·5 in Birkenhead, 20·0 in Merthyr Tydfil, 20·2 in South Shields, 21·5 in Liverpool, and 24·4 in Bootle. The 3976 deaths in these towns last week included 552 which were referred to the principal infectious diseases, against 533 and 558 in the two preceding weeks; of these 552 deaths 138 resulted from diarrhœa, 118 from measles, 112 from whooping-cough, 83 from diphtheria, 52 from scarlet fever, 42 from "fever" (principally enteric), and seven from small-pox. No death from any of these diseases was registered last week in Croydon, Hastings, Brighton, Great Yarmouth, Smethwick, Grimsby, Stockport, St. Helens, Halifax, York, or Stockton-on-Tees; while they caused the highest death-rates in Portsmouth, Hanley, Burton-on-Trent, Bootle, Burnley, Gateshead, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles was recorded in Portsmouth, Plymouth, Devonport, Bristol, Burton-on-Trent, Derby, Rochdale, Gateshead, and Rhondda; from scarlet fever in Burnley; from diphtheria in Bury, Middlesbrough, Rhondda, and Merthyr Tydfil; from whooping-cough in Portsmouth, Norwich, Hanley, and Barrow-in-Furness; and from diarrhœa in Norwich, Liverpool, Bootle, Gateshead, and Merthyr Tydfil. Of the fatal cases of small-pox registered last week four belonged to London and one each to Tottenham, Birmingham, and Swansea, but not one to any other of the large towns. The Metropolitan Asylums hospitals contained 389 small-pox patients on Saturday, July 26th, against numbers decreasing from 1515 to 459 on the 13 preceding Saturdays; 23 new cases were admitted during the week, against 58, 51, and 48 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2432, 2352, and 2377 at the end of the three preceding weeks, had further risen to 2486 at the end of last week; 397 new cases were admitted during the week, against 255, 272, and 333 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 194 to 155 in the four preceding weeks, further decreased last week to 128, and were 43 below the corrected average number. The causes of 38, or 1·0 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Sheffield, Newcastle, and in 51 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Rotherham, Hull, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16·3, 16·2, and 14·7 per 1000 in the three preceding weeks, rose again to 15·8 per 1000 during the week ending July 26th, and exceeded by 1·9 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 8·3 in Paisley and 10·9 in Aberdeen, to 17·3 in Dundee and 18·1 in Glasgow. The 512 deaths in these towns included 21 from diarrhœa, 13 from whooping-cough, 10 from measles, six from scarlet fever, four from diphtheria, and one from "fever," but not one from small-pox. In all, 55 deaths resulted from these principal infectious diseases last week, against 62 and 44 in the two preceding weeks. These 55 deaths were equal to an annual rate of 1·8 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 15 and 13 in the two preceding weeks, rose again last week to 21, of which 13 occurred in Glasgow and six in Dundee. The deaths from whooping-cough, which had been 14 and 15 in the two preceding weeks, declined again to 13 last week, and included seven in Glasgow, and three in Edinburgh. The fatal cases of measles, which had been 22 and 15 in the two preceding weeks, further decreased last week to 10, of which seven were registered in Edinburgh and two in Dundee. The deaths from scarlet fever, which had been five, two, and one in the three preceding weeks, rose again to six last week, and included five in Glasgow, where two of the four fatal cases of diphtheria were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 87, 74, and 62 in the three preceding weeks, rose again last week to 80, and were 24 in excess of the number in the corresponding period of last year. The causes of 17, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·9, 16·9, and 20·9 per 1000 in the three preceding weeks, was again 20·9 per 1000 during the week ending July 26th. During the past four weeks the death-rate has averaged 19·0 per 1000, the rates during the same period being 14·5

in London and 16·4 in Edinburgh. The 147 deaths of persons belonging to Dublin corresponded with the number in the preceding week and included 15 which were referred to the principal infectious diseases, against 11, 17, and 14 in the three preceding weeks; of these, eight resulted from measles, three from diarrhœa, one from scarlet fever, one from diphtheria, one from whooping-cough, and one from "fever." These 15 deaths were equal to an annual rate of 2·1 per 1000, the death-rates last week from the same diseases being 2·2 in London and 3·9 in Edinburgh. The fatal cases of measles, which had been six, six, and eight in the three preceding weeks, were again eight last week. The deaths from diarrhœa, which had been two, four, and one in the three preceding weeks, rose again last week to three. The 147 deaths in Dublin last week included 28 of children under one year of age and 42 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons considerably exceeded the numbers recorded in the preceding week. Three inquest cases and two deaths from violence were registered, and 57, or more than a third, of the deaths occurred in public institutions. The causes of nine, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following notice is to be substituted for that dated July 16th, 1902, which appeared in the *London Gazette* of July 18th, 1902:—

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Arthur Alexander Joseph McNabb has been allowed to withdraw from His Majesty's Naval Service with a gratuity.

The following appointments are notified:—Fleet Surgeon G. S. Smith to Deptford Victualling Yard. Staff Surgeon F. Fedarb to the *President*, additional, for Survey of Stores at Deptford.

ROYAL ARMY MEDICAL CORPS.

Major W. Horrocks, R.A.M.C., is to retain his appointment as Assistant Professor of Military Hygiene at the Army Medical School, Netley, for a further period of six months from September 1st. Major R. H. Firth, Professor of Military Hygiene at Netley, and Professor A. E. Wright, Professor of Pathology, are to go to London with their assistants about August 11th for duty at the Army Medical School, London.

IMPERIAL YEOMANRY.

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz.:—

Surgeon-Lieutenant G. W. Trouton, West Kent (Queen's Own).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Captain J. Clerke to be Captain on the Establishment.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Argyll and Bute: The undermentioned Surgeon-Lieutenants resign their commissions:—J. W. W. Penney and H. Sinclair. 1st Ayrshire and Galloway: Surgeon-Captain D. Lawrie resigns his commission.

Rifle: 2nd Volunteer Battalion Royal Fusiliers (City of London Regiment); Surgeon-Lieutenant M. G. Foster to be Surgeon-Captain. 2nd Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Captain W. J. Lawrie to be Surgeon-Major. 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment: Andrew MacLennan to be Surgeon-Lieutenant. 3rd Volunteer Battalion the Cheshire Regiment: Surgeon-Captain T. Fennell to be Surgeon-Major. 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant T. W. Parkinson resigns his commission. 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders): D. M. Macdonald to be Surgeon-Lieutenant. 2nd Volunteer Battalion the York and Lancaster Regiment: Surgeon-Lieutenant J. P. Shine resigns his commission. 1st Dumbartonshire: Archibald Gilchrist Hay to be Surgeon-Lieutenant. 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry: Brigade-Surgeon-Lieutenant-Colonel D. Cowie is seconded whilst holding the appointment of Senior Medical Officer to the Highland Light Infantry Volunteer Brigade; Surgeon-Lieutenant J. McKie to be Surgeon-Captain.

MENTIONED IN DESPATCHES.

In despatches from Lord Kitchener to the Secretary of State for War, dated Cape Town, June 23rd, and published in the *London Gazette* of July 29th, the following names, among others, are mentioned:—

Surgeon-General Sir W. D. Wilson, K.C.M.G., who "has given me satisfaction as regards his supervision of his own department, as well as the advice he has given me on sanitary matters."

Imperial Yeomanry, 3rd Battalion.—Surgeon-Captain R. Cattley.

Coldstream Guards.—Surgeon-Major W. R. Crooke-Lawless.

Royal Army Medical Corps.—Surgeon-General W. H. McNamara, C.B., C.M.G., Lieutenant-Colonel H. H. Johnston, Lieutenant-Colonel H. J. R. Moberley, Lieutenant-Colonel F. W. Trevor, Lieutenant-Colonel S. H. Carter, Lieutenant-Colonel G. E. Twiss, Lieutenant-Colonel O. Todd, Lieutenant-Colonel G. T. Goggin, Lieutenant-Colonel R. Jennings, Lieutenant-Colonel J. M. Irwin, Lieutenant-Colonel G. W. Brazier-Creagh, C.M.G., Major S. Hickson, Major C. Birt, Major M. P. C. Holt, Major M. W. Russell, Major C. H. Burtchaell, Major F. W. C. Jones, Major J. R. Mullins, Surgeon-Major J. F. Bateson (Coldstream Guards), Major T. G. Lavie, Captain W. W. O. Beveridge, Captain A. F. Tyrell, Captain J. C. Jameson, Captain G. St. C. Thom, Captain W. E. Hardy, Lieutenant T. C. MacKenzie, Lieutenant W. A. Woodside, Lieutenant L. W. Harrison, Quartermaster and Hon. Captain J. H. W. Beach, Quartermaster and Hon. Lieutenant J. Tandy, Quartermaster and Hon. Lieutenant A. Bruce, Quartermaster and Hon. Lieutenant G. H. Painton, Quartermaster and Hon. Lieutenant A. J. Pilgrim.

Warrant Officers, Non-Commissioned Officers, and Men.—Serjeant-Major J. J. Saunders, Serjeant-Major E. W. Newland, 1st Class Staff-Serjeant J. Ritchie, 2nd Class Staff-Serjeant G. Fells, 2nd Class Staff-Serjeant H. Lattemore, 2nd Class Staff-Serjeant J. Wilton, Serjeant E. Haymes, Serjeant T. D. Cameron, Lance-Serjeant G. Darling, Lance-Serjeant T. H. V. Coad, Lance-Serjeant E. A. Hawkey, Corporal S. Cowan, Corporal J. W. Elliott, Lance-Corporal W. Boutwood, Private H. Ebbs, Private J. Keefe, Private J. Meason, Private A. Holloman, Private F. Thomas, Private H. D. White, Private G. W. Barfoot, Private A. Bass, and Private W. W. Pollard.

Royal Army Medical Corps (Militia).—Captain A. H. Benson and Corporal R. E. Kelly.

St. John Ambulance Brigade.—1st Class Superintending Officer C. W. Baker and Orderly C. Pyewell.

Civil Surgeons.—Civil Surgeon W. F. Tyndale, Civil Surgeon E. Langley-Hunt, Civil Surgeon J. Prentice, Civil Surgeon R. Wilbond, Civil Surgeon F. Stableford, Civil Surgeon C. B. Howse, Civil Surgeon A. W. May, Civil Surgeon P. W. James, Civil Surgeon H. J. Crossley, and Surgeon-Captain T. Moir, Imperial Yeomanry.

Army Nursing Service.—Superintending Sister Mrs. J. A. Gray, Superintending Sister Miss M. Russell, Sister Miss M. C. S. Knox, Sister Miss C. H. Keer, Sister Miss H. L. Neale, Sister Miss E. J. Martin, Sister Miss G. E. Saunder, Sister Miss A. A. Murphy, Sister Miss A. C. L. Anderson, Sister Miss A. R. Rose-Innes, and Sister Miss A. E. Tait.

Army Nursing Service Reserve.—Sister H. O. Luckie, Sister L. Mitchell, Sister G. Black, Sister A. F. Bedwell, Sister J. Creighton, Sister C. M. Jones, Sister G. Roberts, Sister E. M. Monck-Mason, and Sister J. Halliday.

Nursing Sisters (various colonies).—Superintendent M. Rawson (Victorian), Sister Isobel Ivey (Victorian), Sister M. S. Bidsmead (Australian), Sister D. Peiper (New Zealand), and Sister A. V. Pocock (New South Wales).

In one of the earlier paragraphs of the despatches Lord Kitchener says: "I well understand that the accompanying list, which is in continuation of the other lists submitted periodically by me, of departmental, staff, and regimental officers who have in my opinion rendered exceptionally good service during the campaign is incomplete, and that notwithstanding all my care there must necessarily be a proportion of officers omitted who have rendered equal, or even better, service than those who have been mentioned. This, however, is the fortune of war and will, I am sure,

be well understood by the army I have been so proud to command."

THE LATE WAR.

We notice elsewhere the last of Lord Kitchener's despatches on the war in South Africa to which probably many medical officers, among other people, will turn to see if their names are mentioned in it. We do not think that officers of the Royal Army Medical Corps will be disposed to think, considering the duration and all the difficulties of the late war, that praise and rewards have been bestowed too lavishly upon their branch of the service.

Now that the war is a thing of the past the Boer generals and others are free to speak and they have touched upon some interesting points in the course of their speeches. General Meyer, for instance, has stated that the Boers never had more than 50,000 men under arms in the field at one time. It is very noteworthy, considering the amount of enteric fever that prevailed among the British troops, that the Boers, practically speaking, escaped that disease. According to what General Meyer is reported to have said, they had relatively little sickness of any sort and, as far as his knowledge and experience extended, no enteric fever whilst on the veldt. They seem for the most part to have been without ambulances and to have had recourse when sick to some simple vegetable drugs called "veldt medicines." It is not at all uncommon, of course, for the native population of a country to have a relative immunity from the sickness—typhoid fever, for example—affecting new-comers or an invading army. Still, General Meyer's statements are interesting and instructive in their way. Dr. Johann Reinecke, who acted as surgeon to the Boers during the war, made his surgical experiences in South Africa the text of his dissertation on the occasion of the degree of M.D. being recently conferred upon him by the University of Berlin His dissertation, although practical and interesting, did not teach anything particularly new to military surgeons. It inculcated the advantages of the *noli me tangere* principle and the application of antisepsis to gun-shot wounds and gave illustrations of the stoical fortitude of the Boers which made them the best of surgical patients.

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The following is a list of successful candidates at the recent examination in London :—

Names.	Marks.	Names.	Marks.
A. B. Smallman	626	C. A. J. A. Balck	540
P. Davidson	623	G. W. Smith	540
W. F. Tyndale...	621	J. M. H. Conway	536
W. F. Ellis...	609	S. M. W. Meadows... ...	535
J. McKenzie	602	J. W. S. Seccombe... ...	534
A. H. Hayes	590	H. V. Bagshawe	529
H. J. Crossley	587	C. V. B. Stanley	520
N. D. Walker	584	D. S. Skelton	519
W. B. B. Taylor	573	H. G. S. Webb	516
R. Storrs	568	W. W. Browne...	510
G. T. Collins	556	F. L. Henderson	510
F. A. H. Clarke	554	N. E. J. Harding	500
G. A. K. H. Reed	548	W. D. C. Kelly	500
R. L. V. Foster	547	R. Rutherford	499
R. B. Ainsworth	542	W. C. Rivers	493

CIVIL SURGEONS AND THE WAR GRATUITY.

We have been asked by several correspondents whether the war gratuity will be given to Civil Surgeons who have served with the troops in South Africa. Civil Surgeons do not come within the category of those for whom the war gratuity is provided in Army Order 5, 1901, and they are therefore not entitled to the gratuity. It should be remembered, however, that all Civil Surgeons employed under contract are entitled to a gratuity of two months' pay for a year's service, with an additional gratuity for each completed period of three months' service beyond the year.

MEMORIAL TO OFFICERS AND MEN WHO FELL IN THE LATE WAR.

On July 27th a mural tablet in coloured alabaster bearing the names of officers and men belonging to Guildford and neighbourhood who have fallen in the late war was unveiled in Holy Trinity Church, Guildford, by Mr. Brodrick, Secretary of State for War. The list includes the names of Captain M. L. Hughes, R.A.M.C., killed at Colenso, mentioned in despatches; and Surgeon-Lieutenant-Colonel W. Wellington Lake, in charge of Hospital at Bloemfontein, where he died.

THE MAHMED-WAZIRI DESPATCHES.

The following members of the Indian Medical Service are mentioned for services in the Mahmed-Waziri campaign: Major Ker, Captain Cox, Lieutenant Peile, and Lieutenant Fry.

Her Majesty the Queen will distribute the medals to the members of the staffs of the Imperial Yeomanry Hospitals who served during the late war in the gardens of Devonshire House, Piccadilly, on Monday, August 11th, at 4 P.M.

The prizes won by the surgeons on probation who were successful at both the London and Netley examinations were presented on July 29th by Lord Roberts at the Royal Victoria Hospital, Netley.

Correspondence.

"Audi alteram partem."

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER.

To the Editors of THE LANCET.

SIRS,—In your issue of July 26th, p. 246, some statements are made by Mr. H. Whitby reflecting on myself, and in a letter in your issue of July 19th, p. 182, there is a letter from Dr. G. Brown on the same subject—diphtheria at Colchester—which calls for some remarks. Mr. Whitby states that three of a family were attacked with sore-throat and "exhibiting" all the signs of diphtheria; that the medical officer of health took swabs from two of the family and declared the results to be negative. I have looked through my list for this year and the only case which tallies with the description in any way is that of a family where four swabs were taken where diphtheria germs were found in three out of the four. These cases were notified accordingly and admitted to the infectious diseases hospital. The only other case where more than one swab from a family were examined for him occurred in April, when I had two swabs marked "Mrs. J." and "Mrs." or "Miss J.," I could not make out which. No diphtheria germs were found in either of those, but they were swabs taken by Mr. Whitby and sent with no comment whatever and so can hardly be the swabs referred to. Since March 22nd I have examined swabs for Mr. Whitby, from six, not four, houses; in not one of these have diphtheria germs been found. What the symptoms were I know not, as help of that sort is never given by him, but in one case at least the patient, when visited by the sanitary inspector on the day of notification, was up and about and opened the door for him. Mr. Whitby seems to object to the discovery that none of these cases were cases of diphtheria, using the word in the restricted sense in which it is now usually employed. *A priori*, one would have thought he would have been only too glad to find that this was the case. No subsequent case of diphtheria arose in connexion with any of these cases, and I take it none of them developed later any of the characteristic sequelæ which otherwise would surely have been noted. With regard to the comments on antitoxin it would be interesting to know who it is who praises the remedy as infallible, since anybody who knows anything at all about the matter must be well aware that it is far from such, having, of course, no curative power whatever, after a certain period. It would also be interesting to have full clinical details of the two cases—of albuminuria, and of albuminuria and bronchitis, with the reasons, if any, for connecting the symptoms with antitoxin. I may state that the majority of the cases arising here have been treated at the infectious hospital, and that since I have had charge of the patients there not a single person has ever left with even a trace of albumin present. Mr. Whitby, finally, thinks that it is "grave that he should not be permitted to have an opinion other than that manufactured for" him, but surely it is a much graver matter for his patients not to have the benefit of the treatment which has been shown to result in the least percentage mortality to them.

Coming now to Dr. Brown's letter, he states that in July, 1901, and subsequently, diphtheria in Colchester assumed a less virulent form. I am not for a moment prepared to accept this statement. True, I did not see many of the cases before the middle of July, but in the same way Dr. Brown did not see many of the cases after that date. He certainly never examined *any* of them. For a time he used to

accompany me when visiting the hospital after July 17th when I took charge of the treatment of the patients. Such patients as he saw at a distance then had often already been treated, 24 hours or more, previously with antitoxin. Before long he gave up coming to the hospital at all. I cannot see how he can have divined the condition of the patients after this—patients whom he never saw at all. There certainly were a number of bad cases among them and quite a sprinkling of exceedingly serious cases. The most conclusive evidence on this point is afforded by the case-mortality of patients treated outside the hospital. Before July 16th there were 37 cases with a percentage mortality of 10·8 per cent.; after, 48 cases with a percentage mortality of 14·5 per cent., during which time the disease is said to have grown milder. I cannot quite make out the meaning of some figures which follow, but the broad fact which to me seems to stand out conclusively is this. Before July 17th antitoxin was given to some cases by Dr. Brown—not to others. It seemed to me that he used it for the bad cases, and he certainly did not seem to be cognisant of the fact that to be of any use it must be employed early, since he did not use it on admission but at some period, even as late as 10 days, after. Reliance was placed chiefly on the use of a spray of dilute lactic acid. Now, as Dr. Graham Smith has pointed out in the *Journal of Hygiene* for April of this year, the mortality in the first half of the year among cases so treated was 25·9 per cent. In the latter half of the year, when antitoxin was systematically used on admission, the percentage mortality was 5·8 per cent. If the cases for this year be added the total up to date (including four cases which arose and were treated in the isolation home) amounts to 190, the mortality being 6·3 per cent. All the cases which have died since I have had charge of the patients have been late cases. I have not yet seen an early case treated with antitoxin become worse and die. Several of the cases which died were moribund on admission, one case dying within an hour of admission. The statement as to ciliated epithelium has already been commented on, and the deduction founded on it, *re* nurses catching the disease, therefore falls to the ground. As epidemics did not occur in the previous years, a large staff of nurses was not employed and there was naturally less chance of a number becoming infected. The first nurse was attacked just before I commenced visiting the hospital. Dr. Brown states that cases of diphtheria later caught scarlet fever and that many such cases died. Personally, I have only had one such case. There is a statement also that it was remarked that the disease would be extirpated in six weeks from Sept. 1st, when a bacteriological laboratory had been set up. I do not know who is the author of this statement but I well remember that Dr. Cobbett, who was directing the arrangements, told Dr. Brown and myself at our first interview together that the laboratory would be wanted, at any rate, till Christmas. Lastly, I should like to remark on the value of bacteriological examination and isolation of infected contacts which Dr. Brown considers of little or no avail.

First, when the laboratory was got into working order the schools were reopened, though diphtheria was rife and the diphtheria season was at hand. In spite of this the number of cases gradually diminished through the autumn. Secondly, on April 26th a girl was brought to me because she had a sore-throat; she went to the Central School for Girls. Diphtheria germs were found in this case. The schoolmistress was asked then to give me the names and addresses of every child away from school on any pretext every morning. All these cases (except such as accidents, &c.) were visited and where it seemed requisite swabs taken and examined. In all six definite cases (and one doubtful one) were found in which diphtheria germs were present. Of these cases five showed some further symptoms or signs of diphtheria and were actually notified, four by myself and one by another practitioner. Of course, all these patients were kept from school with their brothers and sisters and as many as possible were removed to the home. No further case up to the present has arisen in this school. Thirdly, a short time before July 8th I heard of a case of diphtheria in a family some of the members of which attended at Shrubend school, in a village about a mile outside the town. The house was outside the borough boundary but I had a swab sent to me and found plenty of diphtheria bacilli present; a second case arose close to this one and was fatal. I asked the schoolmaster to let me know at once of any case of sore-throat among his pupils in my district. On the 8th there was such a case reported which turned out to be a well-marked case of diphtheria. I now started visiting the school myself every morning. The school was kept open, every child who failed to put in an appearance at school-time was visited, and if ill in any way swabbed. During the next four days 11 cases of diphtheria were thus discovered. By the means employed the infected children were eliminated from the school, together with others of their family, and no child was ill for as long as 24 hours without being injected with antitoxin, except in one case where on account of the parents I was obliged to delay, but was allowed to use antitoxin in the evening. No further death occurred, though four at least of the cases started in a virulent fashion—in two the nose as well as the throat being affected. After July 12th no further case arose which could be connected with the school, bar one, which might have been contracted at school, though I fancy it was not so. Besides these cases there were a few children outside the borough attacked and a good many children infected, but not ill, were discovered, and as far as possible isolated. In the houses discovered at first to be infected six other cases subsequently arose, but no new centres have come to light, the last case notified being on July 22nd. Fourthly, the examination of patients bacteriologically before discharge from hospital was very effectual in preventing "return" cases. In about six weeks, of which I have record, before the system was employed there were four such cases. In the whole period from that date till to-day I know of only two doubtful cases. Finally, I should like to note a case which Dr. Graham Smith has commented on at length in the *Journal of Hygiene* for April, 1902. This patient suffered from a bad sore-throat, she was seen later by Dr. Brown, who did not consider that she was infectious and took no swab. Subsequently, 15 cases arose which can apparently be traced to this case, and several of these cases proved fatal.

I am, Sirs, yours faithfully,

ED. CHICHESTER, M.B. Lond.,
Acting Medical Officer of Health of Colchester.

Colchester, July 28th, 1902.

To the Editors of THE LANCET.

SIRS,—I am surprised that Mr. E. C. Bousfield should feel a difficulty in believing that Dr. G. Brown of Colchester is in earnest when he expresses doubts as to whether the antitoxin treatment is the best treatment for diphtheria and that you, Sirs, should apologise for allowing your columns to be used by persons who, to use Dr. Brown's expression, "do not bow the knee to Baal." The way in which the antitoxin treatment has been praised, idolised, and worshipped certainly justifies the comparison, and it makes the comparison still more suitable if the priests of "Baal" proceed to lash themselves into a fury because the divinity of their idol is challenged. You say, Sirs, that the treatment has been accepted by practically the whole medical world as valuable, and no doubt that is so. But was not the tuberculin treatment so accepted within the shortest memory? Besides, Sirs, the advocates of the antitoxin treatment are not content with claiming that it is a valuable treatment. They say it is a "cure" for diphtheria, "a remedy which can be relied on to cure," as Mr. Bousfield puts it. Now, to my mind, such a statement is so much in excess of actual fact as to become not a fact. I have no hesitation in saying that the antitoxin treatment is not a "cure" for diphtheria. Personally I do not think it is the best treatment for diphtheria at present available and I decline to accept dogmatic assertions as final in the matter; at the same time I am open to conviction and should be glad if Mr. Bousfield would give his grounds briefly for believing that the antitoxin treatment is a "cure" for diphtheria. And first of all he should define exactly what he means by a "cure" in this connexion. Is it a thing which kills the bacilli, neutralises the poisons (or toxins, if he prefers the word) produced by their growth, and repairs any damage done by either of the above? That would, indeed, be a "cure." But do we find cures like this outside the realms of quackery? I have waded wearily through endless statistics as to the antitoxic treatment of diphtheria and read many inconclusive reports of results supposed to be marvellous. But where is the sign of this cure for diphtheria diminishing permanently the mortality from diphtheria? It has surely had a sufficient trial, for in the face of such persistent puffing of the treatment as it has had in the daily papers, who has dared to try any other remedy of late? It is for those who advocate a

new treatment to prove its efficacy. Therefore, if Mr. Bousfield will undertake to maintain the title of diphtheria antitoxin to canonisation as a "cure," I will, for the sake of argument, take the part of "devil's advocate" and dispute its right to the title.

I am, Sirs, yours faithfully,

Highgate, N., July 27th, 1902. HUGH WOODS.

To the Editors of THE LANCET.

SIRS,—In my last letter I left Dr. G. Brown's statistics alone, having no materials for criticism; these have now been supplied me. In 1901 (up to July 16th) 89 patients suffering from diphtheria were removed to the infectious diseases hospital at Colchester; of these 18 had antitoxin before admission and one death occurred among them. Of the remaining 71 no less than 22 succumbed. Comment seems unnecessary. Moreover, the statistics given by Dr. Brown make it abundantly clear that in many of the cases said by him to have been treated with antitoxin the remedy was used as a last resort, and figures based on such cases are absolutely worthless.

I am, Sirs, yours faithfully,

EDWARD C. BOUSFIELD.

Old Kent-road, S.E., July 28th, 1902.

THE MEDICAL SERVICE OF THE MERCANTILE MARINE.

To the Editors of THE LANCET.

SIRS,—I have not seen the previous correspondence on this subject, but the letter of Dr. A. B. Blair in your issue of July 12th, p. 111, rather surprises me. He thinks that these medical officers are well off because they get £10 a month in pay, are well fed, see much of the world, and are not too hard worked. He says that the position is never in danger of being lowered. £10 a month! This is the pay of the second officer, the third engineer, and the second steward. All these men are as well fed as the surgeon, they have the same chance of seeing the world, and are not too hard worked. Does Dr. Blair mean to say that a medical man who is paid at the same rate as these subordinate officials is paid in accordance with his position? If he does, I do not agree with him, for I have a much higher opinion of the value of medical services.

In my opinion the surgeon holds the most responsible position of any on board. If anything very serious occurs he must depend on his own knowledge alone, whereas the captain and engineer have their mates to consult with, and these are generally as well able to meet the emergency as their chief. But the surgeon has no one to consult with. And that very serious cases do occur at times I know by experience. Socially the surgeon is nowhere. When the executive officers mess in the saloon they take the head of the tables, the surgeon and purser being placed at the foot. If the surgeon gives an order to a sailor or a steward to move a deck-chair he may be told by the man that he takes his orders from the mate or the steward. In many vessels his state-room is also his consulting-room and his dispensary and this room is no larger than the state-room allotted to other officers. In one ship I sailed in this was the case. It was placed in the alley-way beside the engine-room and next to the water-closet. As the bulkhead between the room and the water-closet was not water-tight the floor was constantly wet and so I condemned it. After a struggle I got a room in the saloon, but though there were plenty of empty rooms the one I got was the worst, right over the propeller. Yet the captain of this ship had two fine rooms, and the chief steward had a room in the saloon vastly superior to the one I got, and, indeed, it was only by threatening to bring the matter before the Board of Trade that I got another room. Dr. Blair says that the position is never in danger of being lowered in the eyes of the passengers or crew. Does he mean because it is so low already, for it is a fact that passengers and officers look with more or less of scorn on the ship's surgeon, firstly, because he is considered as nobody on board, and, secondly, because he takes tips. It is this taking of tips which is so disreputable, so degrading, in the eyes of the people and which makes the position of the surgeon appear so contemptible in the eyes of all. For a steward to take a tip is nothing, he is only a servant-man, but a surgeon is supposed to occupy the position of a gentleman—that is, of the man who tips. Yet I have met many surgeons who could see no harm in it and who gladly took the tips and tried to call them fees. But they are not fees any more than are the tips to the steward fees, for the passengers know that these men are paid for their services and that to tip them is optional. I certainly have noticed that many of the "steamship doctors" are an abject class. I believe it is due to the fact that they are afraid of losing their tip. Probably the same men would be abject on land also, but, then, very many medical men are very abject creatures before their good-class patients.

Dr. Blair says that £10 a month is sufficient pay, but is he aware that some of the lines only pay £6 a month, and those in steamers crossing the Atlantic in winter as well as others? And in THE LANCET of last week is an advertisement offering a surgeon £5 a month to go to Australia and back. I think that the profession could alter all this if it would act. If the schools would strongly impress on young men to avoid these steamers unless the conditions were suitable the steamship companies would soon consent, as they must have surgeons. And the conditions I would insist on are these: (1) that the surgeon be paid a minimum salary of £10 a month, for which he will attend the crew and steerage passengers; (2) that he be at liberty to charge fees for attendance on first- and second-class passengers; and (3) that he have a state-room in a suitable place for himself quite distinct from a consulting-room or dispensary. These conditions would put no strain on the steamship companies and they would put the surgeon in a right position on board in the eyes of all.

I am, Sirs, yours faithfully,

July 23rd, 1902. J. OGILVIE.

INSANITY AND THE DEATH PENALTY.

To the Editors of THE LANCET.

SIRS,—I have read with interest Sir W. T. Gairdner's letter in your issue of July 26th, p. 242, but I cannot agree with him that any idea of vengeance is present in the punishment meted out to the criminal by the State. Vengeance is entirely a personal emotion but the State knows no such passions, being impersonal, and in a strictly impartial manner enforces by suitable punishments the laws it has enacted. If the punishments do not have the desired deterrent effect they may be useless, but I submit that they cannot be regarded as State vengeance on the criminal. It is true that the poet speaks of "the wild justice of revenge," because the act of the vengeful man and that of the State may equally deter from crime, but the motives of the act in the two cases are altogether different. With regard to verdicts, "Guilty, but insane," they would be contradictory under the present law. If a criminal is insane in the legal sense he cannot be guilty in the eyes of the law. That the legal definition of insanity in McNaughton's case is by no means in accordance with our present knowledge of mental disease may be readily admitted, but none the less I am one of those who do not think that the public safety will gain by modern views of mental pathology being permitted further to diminish criminal responsibility.

I am, Sirs, yours faithfully,

Hackney-road, N.E., July 26th, 1902. M. GREENWOOD.

OBSERVATIONS ON DIET.

To the Editors of THE LANCET.

SIRS,—I feel I owe Dr. Forbes Ross an acknowledgment for his admission that he would not insist upon a full and generous diet in the case of every aged patient; likewise for giving me an opportunity of saying that for some old people I would regard such a diet as suitable.

Dr. R. H. Perks's earnest letter I have read with great interest. He who eschews animal food for ethical reasons cannot but command the admiration of all serious men. In seeking after truth we must not, however, allow our vision to be blurred by our feelings, humane or otherwise, but endeavour to look at facts as they are, however repugnant those facts may seem to us.

1. I have not contended, as Dr. Perks appears to assume, that man is by nature purely carnivorous, but simply that he is largely so. Dr. Perks cites authorities who maintain on anatomical grounds that man is essentially frugivorous, but others equally eminent contend that the anatomy of his digestive system proclaims him in large degree carnivorous. I will, therefore, waive the anatomical argument—although

to my mind it is all in favour of this latter view—and appeal to another line of reasoning. If it can be shown that from the time man emerged from an ape-like being down to the agricultural era—that is to say, during an immense period of his evolutionary career, for from the standpoint of evolution the period of agriculture began but as yesterday—he subsisted largely on animal food, we may safely conclude that he is naturally to a large extent carnivorous. And this, I believe, can be shown. It is known that the man-like apes are not purely vegetarian, but that they eat birds, eggs, and insects of all sorts. Now if these creatures supplement their vegetable diet in this way the strong presumption is that man's ape-like ancestor did so likewise; and that from this anthropoid period of his evolution down to the agricultural era he was largely an animal feeder is as certain as anything can well be, for how otherwise could he obtain the necessary supply of proteid? Certain it is that the most primitive type of man now living is wholly unable to maintain himself on a diet derived solely from the uncultivated vegetable kingdom; those tribes which do not cultivate plants for food are compelled to resort largely to animal food. So far as my researches go—and I have taken pains to get at the truth in this matter—there is no part of the world where man can subsist entirely on wild uncultivated plants. The view that there are certain luxuriant regions where unaided nature yields man an abundance of nutritious food all sufficing for his needs is altogether erroneous. Not only do wheat, maize, potatoes, yams, carrots, peas, beans, lentils, and the like need assiduous cultivation if they are to yield a copious supply of nourishment (which, moreover, is only available after cooking, an art which is, phylogenetically considered, of quite recent date), but the like is equally true of the fig, date, banana, cocoa-nut, to say nothing of the sugar-cane, sago, palm, and a host of other nutritious plants belonging to the tropics.

2. Dr. Perks does not make it clear whether the flesh abstainers to whom he refers abstain also from milk, butter, cheese, and eggs. If they do not, then I must repeat my charge that they are accessory to the slaughter of animals. Dr. Perks refers to this as a minor difficulty in the way of those who are desirous of abolishing or lessening the slaughter of animals for food. I protest that this is no minor but a major difficulty. Farmers cannot sell eggs and milk at a profit unless they slaughter the bull-calves and cockerels and sell them or use them for food. To be consistent, therefore he who abstains from flesh for ethical reasons should abstain also from milk, butter, cheese, and eggs, unless he can be assured that the producers of these articles do not allow the bulls and cockerels to be slain for human consumption.

3. While I contend that man, having evolved from the anthropoid on a diet that has been largely an animal one, is therefore by nature in large measure carnivorous, I must not be understood to imply that he is for ever doomed to remain so. The great difficulty in regard to a strictly vegetarian diet is its deficiency in proteid; and, as I pointed out in the last of my four articles,[1] the consistent vegetarian should aim at extracting from the vegetable world suitable proteids, so as to be able to fortify his vegetable foods with them and thus make good that deficiency. If he proceeds on these lines I see no reason why his humane dream should not be realised.

I am, Sirs, yours faithfully,

Wimpole-street, July 27th, 1902. HARRY CAMPBELL.

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—Although it may appear late in the day to discuss the Midwives Bill with public utility, seeing it has become law, nevertheless the letter signed by the President and chairman of the Association for Promoting Compulsory Registration of Midwives did not appear until the day on which the measure was passed—too late, I presume, to influence the debate in the House of Lords. I must beg of you, therefore, not to allow such a letter to remain unchallenged—"Audi alteram partem." Although it is difficult amidst the chaos of voluminous printed matter extending over years to place one's finger on chapter and verse, I venture to state, and am open to correction, that the promoters of registration until within a very recent period distinctly gave out that the object of their measure was simply to ensure for the poor a class of trained midwives amenable to law and hence to prevent any save those registered from calling themselves midwives, but that they did not desire to prevent the poor helping one another in cases of emergency, or need I say that this was the original purport of the scheme and this they asked and nothing more? It began, however, to dawn upon the promoters under more mature consideration that a measure of this kind would be more or less futile, as was clearly pointed out in the earlier stages of the discussion, because it is evident that the Gamps being regardless of the title "midwife" would be at liberty to pursue their craft as heretofore and consequently the promoters have now been driven to adopt the "neck or nothing" system of discovering the quickest means of exterminating the Gamps from the face of the earth, and that is by rendering it illegal for any but registered midwives to attend for the purpose of gain. It will be interesting, therefore, to watch what the poor in agricultural districts will do, cut off from their succour and supply of Gamps, because, after all said, this much-maligned class have borne the heat and burden of the day for generations and have occupied a position on the obstetric field that no frantic parent, sister, or emotional neighbour could act as a substitute, in spite of what the President and chairman of the association in question say, or to quote their words: "It is often forgotten that the word 'habitually' in the clause leaves a wide margin for freedom of action in cases of emergency or for the individual preference of patients." Pray, Sirs, what is the use of leaving a wide margin after the Gamps are exterminated and there is nobody to act?

Both the Lord Chancellor and Home Secretary appeared to take the view I now enunciate and it is difficult to follow the reasoning of the President and chairman of the association when they advocate in reply to the Lord Chancellor's suggestion "that those who drew up the Bill had in their minds large centres of population and had not considered the case of thinly populated districts where trained assistance would be hard to get," and yet they argue this as a reason for registration; but who can support a midwife located in a lonely country village? There is an old saying that the Lord preserves babies and drunkards, and to these might be added parturient women, because it is certain that in the process of nature accidents *rarely* occur through the attendance of an unskilled midwife—at least this is my observation after many years—and I venture to state that the loss the poor will sustain from the extermination of the Gamps will far exceed anything that may accrue from registration.

I am, Sirs, yours faithfully,

Peckham, S.E., July 19th, 1902. CLEMENT H SEIS.

INTESTINAL SAND.

To the Editors of THE LANCET.

SIRS,—Dr. C. H. Bedford in his Note on a Case of "True" Intestinal Sand in your issue of July 26th, 1902, p. 215, alludes to the three cases of intestinal sand mentioned by me in the discussion which followed the reading of the paper by Sir Dyce Duckworth and Dr. A. E. Garrod[1] as having occurred during my 10 years' tenure of the appointment of surgeon superintendent of the European General Hospital, Calcutta, and regrets that there is nothing to show that these were genuine examples of "true" intestinal sand, "as apparently there was no chemico-microscopical examination made in any of them."

My object in making my observations on the subject was not to prove that mine were genuine cases of "true" intestinal sand (that, I hoped, would have been accepted without question), else I would have stated, as I do now, that the samples were subjected to frequent microscopical examination by myself and the other members of the staff of the hospital; that one specimen was examined chemically by the then professor of chemistry of the Medical College, Calcutta; and that another was examined by the late Mr. Wood-Mason, superintendent of the Indian Museum, Calcutta. The specimens were identical with those submitted to the Royal Medical and Chirurgical Society by Sir Dyce Duckworth and Dr. Garrod. Dr. Bedford may therefore be satisfied that the three cases noted by me were genuine

[1] THE LANCET, June 28th, 1902, p. 1850.

[1] THE LANCET, March 2nd, 1901, p. 623.

examples of "true" intestinal sand. I did not mean it to be inferred that the affection was commoner in India than in England because I had met with three cases in ten years. What I said was that it was probably more commonly observed in India than in England, because of the routine practice in Indian hospitals of washing the stools in all intestinal cases. This will naturally lead to the more frequent discovery of sand in cases in which its existence is not suspected. Of this I had an example during the present month in a case of pernicious anæmia in the person of an Armenian who had spent all his life in Calcutta whom I had an opportunity of seeing with Mr. C. Andrews of West Kensington and Dr. E. Lawrie, lately of Hyderabad. Each of his motions when washed betrayed the presence of "true" intestinal sand in small quantity. There were no symptoms referable to the sand and its existence would not have been suspected or discovered by a casual observation of the stools without washing. This patient had been for many months on a diet consisting largely of milk and exclusive of vegetables and fruit, except grapes, and therefore conforms with Dr. Bedford's suggestion as to the probable cause of "true" intestinal sand; but I find in an old case-book that one of my Calcutta patients who consulted me privately before going into hospital, had been living an ordinary life on mixed diet. His dietary is detailed in my notes and I find it specially stated that he had "not eaten tinned Californian fruits for three months," which will show Dr. Bedford that I was well aware of the conditions under which false intestinal sand is most commonly formed, pears not being usually available in India except in that form.

I am, Sirs, yours faithfully,

A. CROMBIE, M.D. Edin.

Bickenhall-mansions, W., July 26th, 1902.

CIDER AND GOUT.

To the Editors of THE LANCET.

SIRS,—Under this heading the question is asked in THE LANCET of July 19th, p. 182, by Dr. T. Dobson, "Should the gouty drink cider?" My answer unhesitatingly is, "Yes; but he must be careful what cider he drinks." Unfortunately, the public has a preference for sweet bottled cider and this taste has been fostered by makers and dealers generally, and the result is that at the present time there is hardly any bottled cider in the market that is wholesome and fit to drink, more especially by those who have a tendency to gout or to rheumatism. The bottled ciders (and by cider I include perry) are all filtered and "faked" up for the market and I would warn anyone not to drink very freely or regularly of them. If he has any tendency to gout or to rheumatism it will be certain to develop an attack; and if he has none already it will probably cause it.

Irrespectively of the different sorts of cider, some being better for certain constitutions than are others, all ciders when made should be unfiltered and allowed to pass through the full process of fermentation. This is the essential point, and the bottled ciders now to be bought from the very best makers are all filtered and their fermentation interrupted. In this way a sweeter and more brilliant looking fluid is the result. If fermentation is allowed to go on and no filtering carried out a pure, wholesome beverage of a dry nature and bright enough in appearance for most people is obtained. The sugar is thus got rid of and if the cider be kept in the cask undisturbed from its sediment it will in three or four months be as bright and clear as a spirit and should be bottled if necessary about the time that the trees bloom in the following spring. Cider treated in this way may be drunk with great benefit by gouty or rheumatic people and it is, I think, one of the very best beverages for them.

I am, Sirs, yours faithfully,

Winchcombe, Gloucestershire, July 28th, 1902. WILLIAM COX.

MEDICAL PRACTITIONERS AND THE HOME OFFICE.

To the Editors of THE LANCET.

SIRS,—I desire to call special attention to the actions of the magistrates and medical practitioners of Bungay as narrated and commented upon in your columns in connexion with your remarks on the attendance of the members of the British Medical Association when the reconstitution scheme was under consideration.

Mr. Ritchie has no doubt recently been primed with Obstetrical Society literature in connexion with the Midwives Bill. His remarks on the question of the propriety of the conduct of the practitioners of Bungay can be explained quite easily if "The History of the Work of the Obstetrical Society in Relation to Midwives Registration" (published 1895) be read. No one reading this without a full knowledge of all the facts of the case could fail to believe that the ordinary general practitioner is certified as a scurvy fellow by those who claim that they are considered generally to be the most qualified to form an opinion. Mr. Ritchie only repeats what can be found in the pamphlet to which I allude. The mischief which has been done to the great mass of the profession by the Obstetrical Society will manifest itself for years, quite outside the result of its achievement in legislation; that legislation will do no harm. The conduct and the utterances of those who ought to know better have weakened the profession and have shown up the weakness in its organisation to the world at large. Who can blame a politician for using the weapon placed in his hands by members of the medical profession against that profession? The remedy which I have for years advocated is the manufacture of a sufficient political organisation. The British Medical Association now possesses a framework for such. Will its members consent to apply business principles in the use of the frame?

In the first place, the members have to raise their courage to spend both money and time and to use each one his own powers of business, if a successful campaign is to be fought. It is most devoutly to be hoped that every practitioner will cease to regard medical politics as a subject derogatory to the dignity of the profession. That position is the cult of the mere Brahmin. If medical practitioners will realise once and for all that the interests of the mass are his own personal interests then progress will be made. The Brahminical cult will then be a thing of the past. So long as each practitioner belongs to a sect which looks askance at other sects the position of affairs is hopeless and must remain so.

I am, Sirs, yours faithfully,

Hatfield, July 29th, 1902. LOVELL DRAGE.

PERITYPHLITIS.

To the Editors of THE LANCET.

SIRS,—Dr. W. J. Tyson has in his letter referred to an operation performed by me at Guy's Hospital some years ago. As the question of priority is of interest to your readers it might be well to give you exact dates. In doing so I in no way wish to detract from the merit which belongs to Sir Frederick Treves. The case is fully recorded in the Transactions of the Clinical Society for the year 1885, vol. xviii., p. 285, where it will be found that the operation was performed on August 24th, 1883, the account being read on May 8th, 1885. As stated in that paper, whatever credit is due for having suggested at this date an operation for the relief of recurring attacks of pain in the cæcal region must be due to Dr. Mahomed. He was impressed with the great fatality caused by delay in opening the abdomen and when we were together appointed to the staff of Guy's Hospital in January, 1882, we decided to operate early in acute obstruction and allied conditions. The frequency with which cases of peritonitis and other cases resembling obstruction proved to be due to sloughing of the appendix led us to study the diseases of this body.

Those who remember Dr. Mahomed will appreciate the following story. In order to gain a fuller knowledge of the subject I went through the post-mortem records of cases of "typhlitis." These had been made by Wilks, Moxon, and Fagge. The admirable drawings of Moxon illustrated the whole pathology of acute appendicitis and one thought one had gained a point or two in diagnosis and treatment. Mahomed one day, bursting in upon my retreat in his well-known energetic way, said, "Come along, Symonds, if you study these cases any longer you will become like —— [a now well-known baronet] and not make a diagnosis at all. I have a case of acute obstruction and want you to operate at once." However, the case seemed to me very clearly one of acute appendicitis with general peritonitis; operation confirmed this view and served to redouble Mahomed's enthusiasm. Soon after this the case Dr. Tyson referred to occurred. It was that of a young man who had had many attacks of "colic" in the iliac region, where a hard rounded nodule was to be felt in the position of the

appendix. Mahomed called me to the case and suggested that there was a concretion in the appendix and that it might be removed. In planning the operation we differed as to method. Mahomed wished that an incision similar to that for ligaturing the external iliac artery should be made and the peritoneum raised up; he expected the appendix would be shut off by adhesions and might therefore be opened from behind without entering the general cavity. Personally I advocated an incision from the front and removal of the appendix. Mahomed's plan was successfully carried out and the concretion, covered with a laminated capsule of carbonate of lime, removed. As a matter of fact, subsequent experience has shown that concretions having a calcareous capsule lie outside the appendix, having escaped in some acute attack. There will be found an excellent water-colour drawing of this—the first concretion ever removed—in the Transactions referred to, and in the same paper the question of operation is discussed and other interesting points. When Fagge lay ill, though engaged on his book, I took this concretion for him to see and related the case. He examined it with interest and, handing it back, said, as he looked in that pleasant quizzical way he had, "Yes, Symonds, it is interesting, but I don't suppose it will ever be done again." Unfortunately, poor Mahomed—a veritable pioneer—died in 1884, and it was long before another opportunity occurred to me of dealing with an appendix in the quiet period, as there were few in those early days so ready to advance as was Mahomed.

I am, Sirs, yours faithfully,

CHARTERS J. SYMONDS.

Portland-place, W., July 29th, 1902.

THE ANTI-MEDICAL BIAS.

To the Editors of THE LANCET.

SIRS,—Without wishing to disagree with the main drift of your annotation, "The Anti-Medical Bias,"[1] may I be allowed to take exception to its penultimate sentence? Dr. Veressaïef is certainly not a heterodox practitioner. Throughout his work, "Les Mémoires d'un Médecin," he repeatedly asserts his respect for his art and for its professors. In one place he even advocates an increase in the practice of vivisection and can only be called an anti-vivisectionist in the sense that he condemns those long-ago discredited experiments on living people common in the "eighties" of last century. His book is brilliant, full of pathos and observation, and manifestly sincere, but the publication of *ad captandum* confessions, which are sure to fall into the hands of the nervous and the wrong-headed, is manifestly indiscreet.

I am, Sirs, yours faithfully,

July 28th, 1902. FIAT JUSTITIA.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Birmingham University.

THE second degree congregation of the university was held in the Town Hall on July 19th. A large gathering witnessed the imposing ceremony, although general regret was felt at the absence of the Chancellor, the Right Hon. Joseph Chamberlain, M.P., whose place was taken by the Vice-Chancellor, Mr. Charles Beale, who conferred the degrees upon the recipients. An interesting address was given by the principal, Sir Oliver Lodge, D.Sc., F.R.S., who directed attention to the rapid growth and development of the university, and in well-chosen words alluded to the great services rendered by the Chancellor, which he described as the main factor in the progress which had been made. The statement that the university was thriving and showed every sign of vigorous health and the allusion to the formation of a representative council inaugurated by the students were received with acclamation. Considerable interest was taken in the principal's remarks on the formation of the Faculty of Commerce, the first dean of which is Professor Ashley. The relative importance of this new departure in the teaching of the university will have to be decided by experience. The Birmingham City Council has materially aided this portion of the scheme, the halfpenny rate yielding some £5000 a year to the university, while foundation scholarships should give a good start to such an important change in educational methods. The bestowal of the degrees in Science and Arts and those of Doctors and Bachelors in Medicine was celebrated with enthusiasm. The school of medicine has reason to look with pride and hope upon the medical portion of the university teaching.

The General Dispensary.

Some important and valuable changes have been made recently in the staff of the General Dispensary, an institution conducting an extensive practice over a wide area. At a meeting of the governors held on July 21st the committee brought forward a scheme by which the scope of the consulting staff was considerably widened. Four physicians, four surgeons, two gynæcological consultants, and one ophthalmic consultant are recommended for appointment instead of the former plan of one consulting physician and one consulting surgeon. The new officers are to receive fees for their services, in place of an honorarium annually given to the former staff of two officers. It is considered that the alteration will bring the institution into closer touch with the hospitals of the city, and will enable the resident surgeons to select a consultant known to be an expert in the particular department of medicine or surgery covering the case in hand. If carried at the annual general meeting in February next the scheme will come into operation.

Heavy Sentences for Illegal Practices.

At the Birmingham assizes a druggist was charged with illegal practices in procuring abortion in a case which nearly terminated fatally. It was shown in evidence that for a considerable length of time he had been in the habit of using instruments and administering noxious drugs to women who applied to him for assistance. A sentence of seven years' penal servitude was passed. This should certainly serve as a preventive of such practices which are common in large centres and which often result in disastrous effects to health. A remarkable case of the same kind where the offender was a druggist was tried at the Staffordshire assizes held this term. The prisoner had been convicted 20 years previously of a similar offence which resulted in the death of a girl, for which he was sentenced to be hanged. The sentence was commuted to penal servitude for life. On being let out of prison he committed another similar crime. He has just been sentenced to penal servitude for life again, and as his age is 74 years he will probably have no further chance to pursue the evil bent of an ill-balanced mind.

July 29th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Meeting of the British Medical Association.

THE meeting of the British Medical Association promises to be very successful so far as numbers go, and the Manchester medical men, who have a good character for hospitality, are doing all they can to make the gathering agreeable. Breakfasts, luncheons, garden parties, and receptions will keep the members of the Association industriously occupied, while the intellectual food provided is abundant and suited for all degrees of mental digestion. So far as a brief visit to the Owens College can indicate the arrangements are very complete and well organised, but upon this point and all others connected with the meeting your various special correspondents will no doubt inform you. The weather is somewhat unsettled, but there is a fervent hope that it will redeem Manchester from its popular character, not always deserved, of being a wet place.

The Manchester Infirmary.

The *City News*, a weekly local paper, in its issue of Saturday last begins an article as follows: "After a quarter of a century of considering and re-considering the important question of the rebuilding of the Manchester Royal Infirmary is just where it was at the beginning." This is the result of the rejection of the scheme put forward by the infirmary board at the meeting of the trustees held on July 21st. The majority against the scheme was about three to one, but a poll of the whole of the trustees is to be taken by voting papers, which were issued on July 26th and must be returned by

[1] THE LANCET, July 26th, 1902, p. 234.

August 2nd, when the question of rebuilding on the present site will be decided one way or the other. But the more the plans are considered the worse seems the case for rebuilding. No fault is to be found with the architects who have shown considerable ingenuity in attempting an impossible task. The plans show lofty five- or six-storeyed buildings with far too little space between them, so that they would darken each other, leaving most gloomy and insufficient intervals. The open space round the present building is encroached upon appreciably, while part of the area almost inclosed by buildings is counted as "open space" although pretty well hidden and the air in it well boxed up. All this would bear fruit in the future in the unwholesome condition of many of the wards. There was a strong feeling at the meeting in favour of the Stanley-grove site, which "is a quiet place, close to Whitworth Park, well removed from the thoroughfare, and may be had for the asking." Although the Convalescent Hospital at Cheadle relieves the infirmary when the patients are fit for removal it is a great disadvantage that practically they are debarred at Piccadilly from ever sitting out of doors as some of them might do, while at Stanley-grove this would be quite possible and it would be in fresher air. One member of the staff, in his earnest advocacy of retention of the infirmary on the present site, stated that Stanley-grove was the foggiest place in Manchester, but that statement may safely be taken as rhetoric. No doubt Manchester and, indeed, the district round is more subject to fogs in winter than is desirable, but they are as a rule quite as bad in the centre as in the suburbs and distinctly more pungent. But it ought not to be necessary to argue that air comparatively pure is better than the smoke-laden, dust-laden air of Piccadilly. If the scheme for rebuilding is carried the limits of the institution will be fixed irrevocably. No further extension can be made as the needs of the city grow, for grow they will, while it would be quite possible on the larger site. In to-day's papers a strong appeal is issued against the rebuilding scheme and in favour of the Stanley-grove site, "so generously offered by the Whitworth legatees if a better and cheaper site is not available," signed by Earl Egerton of Tatton, Mr. R. D. Darbyshire, His Honour Judge Parry, Sir Bosden T. Leach, Sir Anthony Marshall, both ex-Lord Mayors of Manchester, and 12 leading firms of Manchester. We can scarcely expect a better, and certainly not a cheaper, site than Stanley-grove. The war of sites seemed to be almost over but perhaps it is only beginning.

Hospital Sunday and Saturday Fund.

It has been decided by the General Committee of the Manchester and Salford Sunday and Saturday Hospital Fund to distribute £7300 out of this year's collections among the 20 participating charities. The Royal Infirmary, as the largest, receives £1301 and the Children's Hospital £919. The remainder is apportioned according to the provision made for the sick. Two homœopathic institutions receive £40 between them.

Accommodation for Lunatics.

"The asylum difficulty," which is not a new one, came up again at the meeting of the Manchester board of guardians on July 23rd. In a letter to the Crumpsall Workhouse Committee Dr. L. R. Lempriere, the assistant medical officer, called attention to seven cases of lunatics in the wards which had been certified and ordered by justices for removal to an asylum, but on application being made at the asylums to receive them the answer was that there was no room. The chairman said it was thought that when the Winwick Asylum was opened their troubles with dangerous lunatics would be at an end. The clerk stated that another case had occurred and the patient was taken to the Prestwich Asylum but was refused admission for want of room. It appears that there are about 1200 cases at Winwick and there is room for more, but they are only taken from other asylums and not from boards of guardians. It was decided to send a memorial to the Asylums Board "calling attention to the difficulty in which they are placed and requesting that steps should be taken to supply the deficiency." It was stated that one patient who had recently died had been an inmate of the Whittingham Asylum for 55 years, "showing the care that was bestowed upon them and the healthiness of their surroundings." Some arrangement ought to be made to relieve the workhouses of their dangerous lunatics and to place them where they can be more safely housed.

The Leech Memorial Fund: Report of the Committee.

The committee of this fund has presented its final report to the subscribers. The total amount received was £1305 3*s.* 6*d.*, from 157 subscribers. The main object of the fund was to provide for the immediate endowment of the Leech Professorship of Materia Medica and Therapeutics in the Owens College, and this was achieved by the payment of the sum of £1000 to the college. The council of the college gratefully accepted the donation on the conditions in which it was offered and requested the treasurer to convey to the subscribers to the fund its sincere thanks for their gift. Part of the fund was expended in placing with Mr. George Harcourt of London a commission to paint a portrait in oils of the late Dr. Leech, also for presentation to the Owens College. The artist has been successful in producing an excellent likeness and the portrait, which now hangs in the Christie Library, has given general satisfaction. A large and artistic photograph of the portrait can be obtained at a cost of 4*s.* by subscribers on making application to the honorary secretary of the fund, Dr. E. M. Brockbank.

The Owens College.

The address at the opening of the winter session at the Owens College will be delivered on Oct. 1st by Sir Dyce Duckworth.

July 29th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox.

DURING the week ending July 26th there were notified four cases of small-pox in Swansea. The tradesmen of the borough met on July 24th to consider "the best means to remedy the evil that has been occasioned by the absurd and exaggerated reports of the health of Swansea." The meeting was a private one and the steps which it was decided to take have not been made known, but the most useful would be to make public the fact that the inhabitants are protected by revaccination. To quote the words of Dr. Wilfred W. E. Fletcher, when he visited the town on behalf of the Local Government Board, "there are two kinds of scares—a scare which might do serious harm to a town is undesirable, but a scare that might lead people to become so frightened of small-pox that they would get revaccinated is very desirable."

Health of Newport (Mon.).

In the annual report on the health of the county borough of Newport which has just been issued by Dr. J. Howard-Jones the birth-rate in 1901 is stated to have been 32·6 per 1000, the death-rate from all causes 17·1 per 1000, and the infantile mortality rate 155 per 1000 births. More than 11 per cent. of the deaths of infants were due to diarrhœa, a disease which of late years has been exceptionally prevalent and fatal in Newport, and in consequence of which Dr. Howard-Jones has recommended the appointment of a female health visitor who should visit the homes of the poor and advise as to the feeding and care of young children. Unfortunately this recommendation has not yet met with the approval of the corporation. It appears from information obtained that 75 female inspectors are already employed in 24 towns in England and Wales. During the five and a half years in which the Newport fever hospital has been in use 1207 cases of scarlet fever have occurred in the borough, compared with 2280 notified during the five and a half years prior to the establishment of the hospital. In 1901 there were removed to the hospital 57 per cent. of the cases of scarlet fever, 34 per cent. of those of diphtheria, and 85 per cent of those of typhoid fever. The staff of three inspectors appears to be quite inadequate to the needs of a town with a population of 67,000 persons and it is not surprising to find that house-to-house inspection has had to be almost entirely discontinued. In the 170 houses which were so inspected no fewer than 307 nuisances were discovered; the necessity for the work is therefore apparent.

Sanitary Inspectors' Association.

Although the Sanitary Inspectors' Association of South Wales and Monmouthshire was only established in 1898 it has already accomplished a great deal of useful work. Three or four times a year the members of the association

meet together in different parts of their district and discuss subjects connected with their special work. They met last at Newcastle Emlyn in Carmarthenshire on July 25th and 26th, when Mr. Joshua Powell, M.R.C.S. Eng., the medical officer of health for Llandyssul rural district gave an interesting address upon rural sanitation. A paper by Mr. D. J. Thomas, D.P.H., the medical officer of health of Merthyr Tydvil, was also read. Mr. Thomas dealt more particularly with the difficulties attending the work of sanitary officials in Wales and especially in connexion with the precautionary measures necessary to prevent the spread of infectious disease owing to the doctrine of fatalism which was accepted by so many of the Welsh people. There is no doubt a great deal of truth in his contention, for there are few if any medical practitioners outside the large towns of the principality who when advising the separation of an infected patient from the rest of the household have not been met with the interrogation, "What is the use? if they are to have it they will have it." Ministers of religion, if they would, might do a great deal in the way of combating this doctrine and thus be of service in lessening the amount of disease in the country.

A proposed Clearing House for Meat Inspection.

In an omnibus Bill promoted by the Swansea Corporation which was before a committee of the House of Commons on July 23rd and 24th an important clause to facilitate the inspection of meat was rejected by the committee. The clause provided for the establishment of a clearing-house in the town to which all meat sold in Swansea, whether slaughtered within the borough or without, should be brought for inspection. Although there is a well-appointed public abattoir in Swansea during the past few years several butchers have built slaughter-houses just outside the borough boundary, thus increasing the difficulties of inspection and it was these difficulties which it was sought to lessen by the operation of the rejected clause.

Heavy Fine upon a Milk Dealer.

A Bristol milk dealer was convicted at the Cardiff police-court on July 22nd for selling milk from which 35 per cent. of fat had been extracted. Three previous convictions under the Sale of Food and Drugs Act, 1875, having been proved, the prosecuting solicitor claimed that the convicting justice had no option but to inflict a fine of £100, for Section 17 of the Sale of Food and Drugs Act, 1899, enacts that "where under any provision of the Sale of Food and Drugs Act, 1875, a person guilty of an offence is liable to a fine which may extend to £20 as a maximum, he shall be liable for a second offence under the same provision to a fine not exceeding £50, and for any subsequent offence to a fine not exceeding £100." Although the stipendiary magistrate did not uphold this view he inflicted a fine of £90 or in default of payment three months' imprisonment.

Müller Orphan Houses, Ashley Down, Bristol.

The sixty-third annual report of this institution which has just been issued states that at the end of May, 1902, the total number of orphans was 1659, an increase of 224 as compared with the corresponding date of 1901. The financial statement shows that the expenditure amounted to £24,463 and that a favourable balance remains.

Bristol Royal Infirmary.

At a meeting of ladies held at the Bristol Royal Infirmary on July 25th, under the presidency of the Dowager Duchess of Beaufort, it was decided to form a "Royal Infirmary League," the object of which is to promote the interests of the Bristol Royal Infirmary and to endeavour, with the funds committee of that institution, to increase the income by £4000 per annum.

July 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

A Memorable Graduation Day at Edinburgh University.

SATURDAY, July 26th, was a memorable day for the annals of the Edinburgh University. It was a brilliant inspiration that led the university authorities to offer their highest honour to the galaxy of distinguished men who received the LL.D. degree on Saturday. Six colonial Prime Ministers and four governors added to the tale of honorary alumni is probably a unique record for any university and whoever the inspired instigator may have been he deserves the gratitude both of the university and of the city. The weather was a bad sample of an ungenial season: in the morning when people had to find their way to the McEwan Hall it rained with a volume of water not common in our climate. Notwithstanding that, the hall was promptly filled shortly after the doors were opened and it never presented a brighter and more impressive appearance. The Vice-Chancellor, Sir William Muir, presided, and he was supported by the university authorities and professors and by representatives of the two Royal Colleges and of the Town Council. The Dean of the Faculty of Divinity opened the proceedings with prayer. Thereafter the Dean of the Faculty of Law, Sir Ludovic Grant, presented the following for the honorary degree of Doctor of Laws:—General the Right Hon. Lord Grenfell, G.C.B., G.C.M.G., Governor and Commander-in-Chief, Malta; the Right Hon. Sir Joseph West Ridgeway, G.C.M.G., K.C.B., K.C.S.I., Governor of Ceylon; the Right Hon. Sir Wilfrid Laurier, G.C.M.G., Prime Minister of the Dominion of Canada; the Right Hon. Sir Edmund Barton, K.C., G.C.M.G., Prime Minister of the Commonwealth of Australia; the Right Hon. Richard John Seddon, Prime Minister of New Zealand; Lieutenant-Colonel the Right Hon. Sir Albert Henry Hime, R.E., K.C.M.G., Prime Minister of Natal; the Right Hon. Sir Robert Bond, K.C.M.G., Prime Minister of Newfoundland; Sir Walter Joseph Sendall, G.C.M.G., lately Governor of British Guiana; Sir William McGregor, M.D., K.C.M.G., C.B., Governor of Lagos; and the Right Hon. Sir John Gordon Sprigg, K.C.M.G., Prime Minister of Cape Colony (*in absentiâ*). Sir Ludovic Grant is a master of the particular art required for such a ceremonial and he never acquitted himself more admirably than on this occasion. Each one of this distinguished group of men as he was presented received a flattering ovation from the crowded hall. After signing the roll-book of honorary graduates each was led to a chair in front of the platform where he was face to face with the occupants of the hall and was in a position to see the stately proportions and rich adornment of the hall to great advantage. The ceremonial and the spectacle could not fail to make an indelible impression upon the men who guide the empire across the seas, and no one present in the hall is likely to forget it. While the granting of the honorary degrees was of exceptional interest on this particular occasion, the occasion was also the main one for the conferring of medical degrees. The number of men taking the doctorate in medicine was unprecedentedly large, there being 67, while 150 students took the Bachelor degree. Five gold medals were awarded for theses, and of the five students who graduated with first-class honours two were women. After the graduation ceremonial the colonial premiers and governors were entertained to luncheon at the Students' Union. In the afternoon the premiers had the freedom of the city conferred upon them and in the evening they were entertained at a banquet. At the close of the graduation ceremonial in the morning Professor E. A. Schäfer, F.R.S., addressed the graduates, dealing with the advantages of the medical profession, the changes in medical problems within recent years, and the altered methods of attacking disease. He then proceeded to point out the need that Edinburgh had for a chair of chemical physiology, the holder of the chair to be a chemist in the first place.

The Allocation of the Carnegie Trust Money.

The Carnegie trustees have published a letter which they have sent to the secretaries of the University Courts of the four Scottish universities dealing with the allotment of the money at their disposal for the four universities. The letter embodying the plan adopted by the trustees is too long to deal with in detail here, but it may be said that the general plan is characterised by great ability and a statesmanlike grasp, and treatment, of a problem which to many minds appeared extremely intricate. The trustees retain complete control of the £50,000 per annum, which is the sum available. The sums allocated to the universities are as follows: Glasgow gets for five years £8000 for buildings and permanent equipment; £2000 for teaching, but £1500 of this are annually set aside for an endowment fund for a specified chair; and £1000 for the library. This makes a total grant of £11,000 per annum and so of £55,000 in five years. Aberdeen gets £45,000 on the same lines, St. Andrews £42,000, and Edinburgh £57,500. As regards Edinburgh, £8000 a year are allowed

for buildings and permanent equipment, and under this head are included (1) natural philosophy and engineering, (2) strong room and alterations in library, (3) apparatus, (4) pathological bacteriology, and (5) catalogue of anatomical museum; £2500 a year are given for teaching and it is indicated that this sum is for the endowment of modern languages or some other purpose approved by the committee; and £1000 are allocated annually to the library. By the allotment of £2500 per annum for teaching on the lines indicated by the trustees a professorship or lectureship can be at once instituted with £500 a year for its maintenance for five years, while at the end of that period there will be an endowment of £10,000 with accumulations of interest. At the end of the period of five years the trustees keep themselves free to rearrange the allotment of their funds as they think fit. The above disposes of £200,000 in five years, which leaves £10,000 still in the hands of the trustees, and they indicate that this sum will to a considerable extent be devoted to the aid of post-graduate research and to the foundation of scholarships designed to stimulate original work in special directions. It is needless to dwell upon the enormous boon that these arrangements afford to the Scottish universities. I have no means of knowing if the universities like being supervised in this way by an outside body, even though they be Carnegie trustees, but so far as I have been able to gather the scheme has appealed to persons outside the university for its breadth and powers, and it may be that the university authorities are thankful to have such an outside tribunal to determine which amongst conflicting claims is the most urgent. The trustees are certainly to be congratulated on the remarkable skill shown in this scheme.

July 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

THE Senate of the Royal University met on July 24th, when a motion expressive of sympathy and congratulation was unanimously adopted and forwarded to His Majesty the King. The following were appointed as extra-examiners for the autumn examinations 1902:—In surgery Mr. Charles Stonham, C.M.G., in midwifery Dr. Henry Jellett, in pathology Dr. Alexander C. O'Sullivan, and in ophthalmology Dr. William G. Sym. On the motion of Dr. Cox, seconded by Dr. W. A. McKeown, Sir Christopher Nixon was unanimously reappointed representative of the University on the General Medical Council for the ensuing five years.

Royal College of Surgeons in Ireland.

The following prizes were awarded for the Summer Session, 1902:—Barker anatomical prize (£30), R. G. Allen. Carmichael scholarship (£15), J. J. Connolly. Silver medals in operative surgery, W. R. Ormsby and J. J. Ryan (equal). Practical histology: W. W. Boyce, first prize (cheque) and medal; and A. C. Adams, second prize (cheque) and certificate. Practical chemistry: C. M. Burton, first prize (cheque) and medal; and J. B Kelly, second prize (cheque) and certificate. Public health and forensic medicine: F. O'D. Fawcett, first prize (cheque) and medal; and L. F. Kelly, second prize (cheque) and certificate. Materia medica: P. V. Dolan, first prize (cheque) and medal; and H. S. Misstear, second prize (cheque) and certificate. Practical pharmacy: C. M. Burton, first prize (cheque) and medal; and R. J. Smallman, second prize (cheque) and certificate. Biology: C. M. Burton, first prize (cheque) and medal; and A. J. Faulkiner, second prize (cheque) and certificate. The schools of surgery will resume work after the summer recess, on Oct. 1st.

Typhus Fever in Ireland.

An epidemic of typhus fever prevails at present at Clifden on the west coast of Galway. Trained nurses were summoned from Dublin and of those sent down from the Mater Misericordiæ Hospital two were attacked by the disease. One of them, Miss Tyrrell, was invalided and sent back, only, however, to die as the result of the conscientious discharge of her dangerous duties. The other nurse who was infected is now happily convalescent. It is interesting to note that there is at present no typhus fever along that part of the west coast which includes Burton Port and the Arran Islands. Mr. Henry E. Eardley, L.R.C.P. & S. Irel., came from Manchester some months ago to undertake the position of local medical officer in succession to the late Mr. William Smyth and is there now doing courageously the work which proved fatal to the heroic Mr. Smyth, whose name is familiar to all readers of THE LANCET. He reports that there is no fever there at present, and that it does not usually appear until later in the year when the harvesters come from Scotland. He remarks that a sick call to one of the islands generally means two hours on the sea. He does not, however, complain, but seems rather to prefer his life in that wild and desolate region, with all its dangers from typhus fever, shipwreck, and exposure, to the daily drudgery of a general practitioner working in the streets of a great city.

July 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Centenary of Bichat.

THE Centenary of Bichat was celebrated on July 22nd, under the auspices of the French Society of the History of Medicine. The programme gone through was as follows. At 10 A.M. the members paid a visit to the tomb of Bichat in Père Lachaise, where Professor Blanchard delivered an address. At 4 P.M. a meeting was held at 14 Rue de la Chanoinesse, the house where Bichat lived and died and to which a commemorative plaque has been fixed. At 5 P.M. a meeting was held at the Faculty of Medicine, where Professor Tillaux gave an address and Dr. Albert Prieur delivered an eulogium of Bichat. Finally, a marble plaque was affixed to the walls of the Hôtel Dieu on which was inscribed the text of the testimony to the memory of Bichat which Bonaparte wrote with his own hand. A medal bearing the effigy of Bichat has been struck in memory of the centenary and every subscriber has received one. Two descendants of Bichat are alive at the present day—namely, a grandson and a great niece.

Assassination of a Medical Man.

A Paris physician, Dr. Ordenstein, a German by birth, has just been mysteriously assassinated. He was travelling in a first-class carriage to Versailles and when close to Becon-les-Bruyères he was stabbed several times with a knife by a young man employed in the Post Office, by name Chabaneix, who refused any explanation of his conduct but said that he had been poisoned. Dr. Ordenstein was taken to the Beaujon Hospital in a dying condition and he expired on the following day. He had a severe abdominal wound. Dr. Ordenstein was about 60 years of age. He had lived in Paris for more than 20 years and was a bachelor. His medical studies had been carried on in Paris and he wrote his thesis on paralysis agitans and disseminated sclerosis, the materials for which had been collected at the Salpêtrière under Charcot.

The Chair of Anatomy at the Faculty of Medicine

The Council of the Faculty of Medicine devoted the whole of its last meeting to the question of the chair of Anatomy. A proposal was made that the professor of anatomy should be precluded from also holding an appointment as hospital surgeon, in which case the duties of demonstrator (*chef des travaux anatomiques*) and professor could have been combined in the same individual who would thereby have had an income of about £1000 a year. This proposal, however, was rejected and it was decided: (1) that no additional conditions should be imposed on the professor of anatomy; and (2) that the demonstrator should not in future be chosen by competition but should be nominated by the council of the Faculty who would select him from among the *agrégés*. When the period of service of Dr. Rieffel, the present demonstrator, expires by lapse of time, the appointment of demonstrator will be annual and renewable. One result of this will be that the professor of anatomy will be supreme in that department whereas previously the demonstrator had undivided authority at the École Pratique.

The Competitions for the Post of Hospital Physician.

Mention has recently been made in these columns[1] of the scandals which have arisen in connexion with the competitions for nomination as hospital physician or surgeon. The

[1] THE LANCET, May 31st (p. 1568), and July 5th (p. 48), 1902.

commission appointed by the Hospitals Medical Society to consider the modifications required in these competitions, conformably with the resolutions agreed to at the meeting held on June 18th, has now presented its preliminary recommendations. The chief objects which the commission had in view were to guarantee that the competitions would be impartial, to reduce their inordinate length, and to lighten the task both of the candidates and of the examiners. Some of the questions proposed for its consideration appeared to present so many difficulties that the commission preferred to reserve its opinion until further experience should have been gained. The commission recommends in the first place that the examinations for nomination as hospital physician or surgeon should be divided into two competitions—namely, a preliminary stage (*concours d'admissibilité*) and a final stage (*concours d'admission*). It is further recommended that the present method of voting should be abandoned and that the jury should give its votes at the end of each sitting and after discussion of the results of the examinations and that the decisions should be made known as soon as they are arrived at. The *concours d'admissibilité* would be decided by a jury of 10. It would commence with a written examination in pathological anatomy and in symptomatology or semeiology, these two subjects being dealt with quite separately, each as a paper by itself. For the reading of these two papers the jury would be divided into two sections of five each, determined by drawing lots, one section to decide as regards pathological anatomy and the other as regards symptomatology. The maximum number of marks of each subject would be 15. After this first examination the number of candidates would be reduced to 30 at most, who would then proceed to the clinical examination of a patient, 15 minutes being allowed for the actual examination, five minutes for consideration, and 15 minutes for the candidates to state their opinions orally to the jury. The maximum number of marks here would be 20. After this second examination the number of candidates would be reduced to 20, who would then proceed to deliver a discourse (*leçon orale*) on a question in pathology, either internal or general, 20 minutes being allowed for preliminary consideration of the discourse and the same length of time for its delivery. The maximum number of marks here would be 20. This examination, as well as the previous one, would be adjudicated on by the whole of the jury. After this examination 12 candidates would be declared "admissible." The final competition will be the *concours d'admission*. As only three candidates can be placed by a competition, there will be two competitions for the nomination of six hospital physicians or surgeons. A jury of nine members will be formed, none of whom must have either taken part in the *concours d'admissibilité* or drawn lots rendering them eligible to take part in it. The *concours d'admission* will consist of two parts: (1) a written opinion on a case, a quarter of an hour being allowed for the examination of the patient and three-quarters of an hour for the writing of the opinion, with a maximum of 20 marks attainable; and (2) a clinical lecture on a patient, half an hour being allowed for the examination of the patient and the consideration of the case, the interview with the patient not to exceed 20 minutes, and a maximum of 30 marks being attainable.

July 29th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Transportation of Mosquitoes by Vessels.

DR. SOUCHON, President of the Louisiana State Board of Health, in view of the fact that the presence or absence of mosquitoes on board of vessels may be considered as a basis for quarantine regulations, caused observations to be made by the marine medical inspectors whom the board of health of that State places aboard of vessels coming from the fruit ports of Central America carrying passengers or trading with infected ports or with such as are specially dangerous. Six of the inspectors found no mosquitoes aboard but two of these considered that rough weather was the probable cause of the absence of the insect. Four inspectors reported mosquitoes throughout the entire voyage from Limon, occupying five and a half days. The final inspection ha to be made just before the vessel enters the Mississippi river quarantine station, for mosquitoes always invade ships at this point.

Uniform of the Medical Department of the United States Army.

According to the *New York Medical Record* a change is shortly to be made with regard to the insignia of the United States Army Medical Department and hospital corps. Instead of a cross a caduceus is to be worn. The board of officers which is now engaged in revising the uniform of the army also proposes to change the distinctive colour of the medical department from green to magenta. This is in conformance with the custom of most countries, for dark red, magenta, or maroon is the distinctive colour not only of the medical department of the United States navy but also of those of 13 of the most important armies of the world, including those of England, France, Germany, Austria, and Russia.

Army Nurses.

The army corps of nurses was established by a Bill passed by Congress in February, 1901, and the War Department has issued orders relative to the duties, pay, status, and quarters of the corps. Army nurses are to be assigned to duty at military hospitals, and at hospitals where more than one nurse is serving one of the nurses will be assigned to duty as chief. The tour of duty outside the United States will generally be at least two years. Nurses are appointed for three years and must be graduates of a hospital training school and pass satisfactory professional, moral, mental, and physical examinations. Application for service is made to the surgeon-general, and after appointment the nurse is expected to serve at least three months in the United States, during which term she will receive special instruction in army nursing. A nurse who has served faithfully and satisfactorily for at least six months and received an honourable discharge will be placed on the reserve list. A nurse will be dropped from the reserve list upon reaching the age of 45 years, or if she ceases for five years to practise her profession, or if she becomes permanently incapacitated owing to illness or other good or sufficient reasons.

Immigration and Disease.

Immigration to the United States at the present time presents many serious problems. The type of immigrant has completely changed within the past 30 years and the incoming passenger steamers are crowded now with the inhabitants of Southern Europe, of the Orient, and of Russia. A great number of these people are undesirable in many ways, not the least so from the standpoint of health. According to Mr. T. V. Powderley, Commissioner-General of Immigration, persons afflicted with favus and trachoma are numerous. To prevent the incoming of such individuals regulations, of which the following forms part, were framed by Mr. Powderley and approved by the Secretary of State: "In view of the prevalence among arriving immigrants of favus, a loathsome contagious disease, you are hereby instructed to make a careful examination in order to insure the detection of all such cases and their immediate return to the country whence they came, if possible by the steamship upon which they arrive, otherwise as soon as practicable by a steamship of the same line at the expense of said line. If the certificate of the examining physician in this country indicates that the disease existed at the time of alien's embarkation, or that symptoms had developed at that time which the transportation company's physician might with reasonable care have detected, steps should be taken for the prosecution of such company, as provided by Section 6 of the Act of March 3rd, 1891."

Contagious Disease Hospitals in New York City.

The conditions of the hospital accommodation in New York city for those suffering from contagious diseases are notoriously bad and have been made recently the object of much vituperation on the part of the lay press. The first step in the direction of improvement was made a short time ago when a sum of $37,000 (£7400) was set aside by the board of estimate and apportionment for the specified purpose "of the care and maintenance of patients suffering from contagious diseases." Of course, such an amount as the above is miserably inadequate and will be employed to patch up the old buildings which are used as small-pox hospitals on North Brother Island. There is pressing need in New York of better isolation hospitals for contagious cases.

July 19th.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT MANCHESTER.

THE meeting of the British Medical Association at Manchester this year marks its seventieth anniversary, and it is the fourth occasion on which the Association has assembled in that city. Its first meeting was as long ago as 1835 before the Association was known by its present name; the second was in 1854; the third in 1877, when slightly under 1000 members were present.

The critics who not infrequently assert that the annual meetings of the Association have lost their scientific value and have developed into gatherings of the picnic order will this year at least acquit the executive of choosing a meeting-place the attractions of which are calculated to draw members away from the serious business of the occasion, for a more unlovely place than Manchester for anything of a picnic character it would be difficult to choose.

Tradition has it that it always rains in Cottonopolis; certainly it is always dirty; and tradition is not belying the character of the city on the present occasion, as the weather is very unsettled and showers of rain are frequent. The noise occasioned by street traffic in Manchester is continuous and distressing. There is no such thing as smooth roadways in the city, no asphalte or wood-blocks, while rubber-tyred vehicles are an exception. Moreover, the "setts" are badly laid, quite big gaps occurring here and there. The consequence is a continuous clatter which defies description and creates considerable distraction and confusion. At no time is this infliction on the ear to any extent abated. It is as the noise of a "car rattling o'er the stony street," in Byron's "Waterloo," only multiplied ten thousand times.

On Monday evening Mr. Walter Whitehead entertained at dinner the presidents of sections, local secretaries, the members of the council, vice-presidents, and various other guests. Among the latter were the Dean of Manchester, the Rev. Mr. Brown of the Roman Catholic Church of the Holy Name, the Lord Mayor of Manchester, the Mayor of Salford, the Hon. G. Rockwood, member of council (Colombo), and Dr. H. P. Cholmeley (representing THE LANCET). The dinner was held at the Albion Hotel. Dr. Rockwood, who is a pure Tamil, graduated in medicine in Madras in 1872 and 12 years later became M.R.C.S. Eng., M.R.C.P. Lond. He is consulting surgeon to the General Hospital at Colombo, with which institution he has been connected for a quarter of a century, and was appointed in 1898 to be an unofficial member of the Legislative Council of Ceylon. The toasts were "The King and the Queen," proposed by Mr. Walter Whitehead (President-elect); "The President-elect," by the Lord Mayor of Manchester; "The Lord Mayor of Manchester," by the President-elect and "The Mayor of Salford," by the Dean of Manchester.

A striking work commemorative of the meeting of 1902 has been written by Dr. William Stirling and produced at the joint expense of himself and Mr. Whitehead. The work has been privately printed and issued at the Owens College Laboratory of Histology. It is entitled "Some Apostles of Physiology" and consists of short biographical notices of leaders in physiology from Vesalius to Huxley. The work is most sumptuously illustrated with reproductions of cuts from the works of the various masters in physiology and with photogravure reproductions of portraits of themselves. We hope in a future issue to give an extended review of this book, which is worthy in every way of the great men commemorated therein, of the distinguished physiologist who has written it, and of the able surgeon with whose presidency of the British Medical Association its issue coincides.

As at Edinburgh and at Cheltenham all the sections this year are housed under one roof—namely, in the Owens College. The reception-room and the various executive offices are also in the same group of buildings. The advantages of this arrangement are obvious, but, of course, only towns having a large educational establishment possess the necessary accommodation for thus housing a scientific meeting.

The annual service in the Cathedral on Tuesday morning suffered in point of attendance in consequence of a heavy fall of rain just prior to the time appointed for the commencement of the service. The musical portion of the Office was well rendered by the Cathedral choir, and Bishop Thornton, vicar of Blackburn, preached an eloquent sermon on the text, "Neither shall there be any more pain, for the former things are passed away" (Rev. xxi. 4). The alms were, as usual, divided between Epsom College and the British Medical Benevolent Fund. There was also a service for Roman Catholic members of the Association at the Church of the Holy Name, High Mass being celebrated by the Rev. Mr. Brown and a sermon preached by the Rev. Mr. Coupe, S.J.

The annual exhibit of drugs, surgical and sanitary appliances, and special foods was held in the drill-hall in Burlington-street, a somewhat squalid neighbourhood within five minutes' walk of the Owens College. Most of the stalls were ready for the opening ceremony, which was held on Monday evening, at 7.30, the Lord Mayor of Manchester declaring the exhibit open in a few brief sentences, having first been introduced by Dr. S. Woodcock, the chairman of the Exhibits Sub-committee. A programme of music was provided by the Euterpean Orchestra.

The exhibits were thoroughly representative of all that pertains to the healing art, features this year being a sanitary section and a motor-car section. As special space was allotted to this class of exhibit ample room remained for pharmacological exhibits, sanitary appliances, and special foods. The drill-hall did not, however, afford the same facility for making the general presentation of the stalls artistic as did the Winter Garden at Cheltenham last year. Like most drill-halls the building is strictly rectangular and the passages between the stalls served to cut the space into squares. Nevertheless, the stalls for the most part were attractively arranged and very general interest was taken in the exhibits by the visitors and the attendance was good, despite the wet weather and the remoteness of the drill-hall from the neighbourhood of the leading hotels.

The buildings in Manchester give striking evidences on all sides of the continuous bombardment of the smoke-laden air. Columns of brick and stone seem as though they had been held in a smoky flame. The sooty deposit appears to be quite thick in places. Where so much steam-power is in request as in an extremely busy manufacturing centre like Manchester this befoulment by smoke is looked upon as inevitable. But why cannot Manchester prevent smoke as Nottingham has done? Perhaps, however, cotton goods are not so easily spoilt by smoke as is lace; otherwise it may reasonably be supposed that the manufacturers in Manchester would soon find a remedy.

As is well known Manchester has attacked many sanitary problems courageously and with success, notably the supply

of pure water to the city and the disposal of sewage. Is the smoke question less in importance than these? It is doubtful.

The water-supply is derived from Lake Thirlmere in Cumberland, and is, of course, remarkably soft—a fact readily noticed by the visitor who is accustomed to hard water. On account of immense industrial waste the sewage problem in Manchester has been very difficult to deal with. At a quite recent meeting, however, of the Mersey and Irwell Joint Committee it was reported that where land was available perfectly trustworthy results with tanks and filters were obtained so long as the land, tanks, and filters were not overdosed and their bacterial purifying agencies choked. Special steps are also taken to utilise refuse other than sewage with decidedly satisfactory results.

The first general meeting was held on Tuesday afternoon at 2 P.M. in the Whitworth Hall, Owens College, and was adjourned until the evening when Mr. Whitehead delivered the interesting presidential address which will be found in our columns.

The address in Medicine, which we also publish this week, was delivered to the assembled Association in the Whitworth Hall by Sir Thomas Barlow on Wednesday evening. Previously to the delivery of the address the President read a telegram from His Majesty the King expressing his thanks for the message of congratulation which had been sent by the Association on the preceding day.

At this meeting Mr. Andrew Clark, treasurer of the Association, stated that the meeting of 1903 would be held at Swansea and that Dr. T. D. Griffiths would be the President. Dr. Griffiths expressed his thanks and then Dr. Roberts Thomson, chairman of the Council of the Association, announced that the council had accepted with great regret the resignation of Mr. Francis Fowke, the general secretary, who was unanimously elected an honorary member of the Association.

The news of the resignation of Mr. Francis Fowke, the general secretary of the Association for the past 31 years, will be received by all members of the medical profession with feelings of concern. Mr. Fowke's period of office covers stormy times in the history of the Association, for which he has zealously laboured, and he will convey with him on his retirement the hearty good wishes of his very many friends. For ourselves, we congratulate him on his well-earned rest and assure him of our sympathy in the severance of ties of so long standing. We also take the opportunity of thanking him for the courtesy invariably extended by him to our representatives on so many occasions.

Mr. George Brown, one of the Direct Representatives for England and Wales on the General Medical Council, desires us to state that the death of a near relative prevented him from taking part in the discussions in the Ethical Section of the Manchester meeting of the British Medical Association.

THE GENERAL MEETINGS.

THE FIRST GENERAL MEETING.

The First General Meeting of the Association was held in the Whitworth Hall, Owens College, at 2 P.M., on July 29th. There was a fair attendance of members.

The minutes of the last annual meeting were, on the motion of Dr. G. R. FERGUSON, the retiring President, confirmed and adopted. Dr. Ferguson then, after a short farewell speech, vacated the chair in favour of his successor, Mr. Walter Whitehead, F.R.C.S. Edin., consulting surgeon to the Manchester Royal Infirmary.

Mr. WHITEHEAD, after thanking the Association for electing him, gave notice that he would move that a telegram should be sent to His Majesty King Edward VII. congratulating him on his recovery. This motion being duly adopted the Presidential badge was presented to Mr. Whitehead by Mr. J. W. Smith on behalf of the Executive Committee.

Dr. R. THOMSON then proposed, and Dr. HENRY BARNES seconded, a vote of thanks to the retiring President. This was carried unanimously and Dr. FERGUSON then replied in a few well chosen words.

The TREASURER (Mr. Andrew Clark) then proposed :—

That the financial statement for the year ending Dec. 31st, 1901, together with the estimate for revenue and expenditure for 1903, be received and adopted.

This was duly seconded and then Dr. J. BRASSEY BRIERLEY spoke a few words of warning. He contended that the estimated increase due to an increased subscription—namely, £7200—would not be attained because many subscriptions would be dropped. Mr. ANDREW CLARK replied and the motion was carried.

The next business was the vote of thanks to Mr. Andrew Clark whose term of office had come to an end. This was carried unanimously. The auditors, Messrs. Price, Waterhouse, and Co., were then appointed in accordance with the statute and the meeting passed to the election of a new treasurer.

Mr. GEORGE EASTES proposed for this office Dr. Edward Markham Skerritt of Clifton.

This was seconded by Mr. JOSEPH COLLIER, and on the motion being put to the meeting Dr. Skerritt was unanimously elected.

The meeting then adjourned.

THE (ADJOURNED) FIRST GENERAL MEETING.

The adjourned first general meeting assembled in Whitworth Hall at 8.30 P.M., and was reinforced by a large number of ladies who came to assist at the conversazione which was to follow. Indeed, the great hall was quite filled and the academic robes rivalled in their startling scarlet the brilliancy of the ladies' evening dresses. After an organ recital by Dr. Kendrick Pyne, organist of the Cathedral, the LORD MAYOR opened the proceedings with a few appropriate words of welcome. He insisted that the people of Manchester fully recognised how much they owed to the medical profession and moved a vote of thanks to those who had come from all parts and some from great distances to take part in the proceedings. This proposal was carried by acclamation. Mr. W. Coates, honorary secretary to the Executive Committee, then introduced the colonial visitors and delegates. He read out a long list of names, and those who were present responded to their names by mounting the platform where they were received each with a round of applause. The first name was that of Professor Baginsky (Berlin), then followed Professor von Noorden (Frankfurt), Professor Musser (Baltimore), Dr. Jules Comby (Paris), Professor Onodi (Budapest), Dr. Widmark (Stockholm), Professor Oscar Liebreich (Berlin), Dr. L. Grünwald (Munich), Dr. T. Röhrer (Zürich), Professor G. Killian (Freiburg-in-Baden), Dr. the Hon. W. G. Rockwood (Ceylon), Dr. J. Hyslop, D.S.O. (Pietermaritzburg), Mr. H. H. McWilliams (West Australia), Mr. James Grant (Ottowa), and others.

Mr. WALTER WHITEHEAD then delivered his Presidential Address, which we publish in full on p. 261.

At the conclusion of the address a vote of thanks to the President was moved by Mr. THOMAS BRYANT and carried by acclamation.

As the sections broke up early on Wednesday afternoon members were surprised to find a notice posted up stating that the general meetings announced for Wednesday, Thursday, and Friday would not take place. The reason given was that all the business had been concluded. This, however, only removes the question a stage further back, for it is natural to inquire why there was so little business. The explanation will be found in the new constitution which is now in force and which stipulates that the meeting of delegates must precede the general meetings. It was, however, impossible to organise the election of delegates in time for the present annual meeting; so there had been no delegate meeting to prepare questions for the general meeting

to decide, and hence according to the new rules there could be no further business to transact.

THE SECTIONS.

MEDICINE.

WEDNESDAY, JULY 30TH.

Dilatation of the Stomach.

Professor CLIFFORD ALLBUTT (Cambridge) opened a discussion on the Causes, Diagnosis, and Principles of Treatment of Dilatation of the Stomach. He commenced by offering on behalf of the section a tribute to the memory of Professor Kussmaul, who died full of years and honours on May 28th, 1902, and to whose clinical studies from 1865 onwards on dilatation of the stomach he himself and the profession at large were deeply indebted. In entering upon the subject of the day he proposed that the discussion should run chiefly upon the atonic or non-obstructive dilatations of the stomach, as the obstructive dilatations were, comparatively speaking, well understood. Atony and atonic dilatation had not received the attention they deserved, atonic dilatation, indeed, being neglected by some physicians and by a few even denied. Dealing with the *causes* he was disposed to attribute acute dilatation of the stomach to compression of the gut by the distended viscus itself about the junction of the duodenum and jejunum. "The stomach," he said, "is supported more firmly at the cardiac than at the pyloric end; and in any case its mean position is more vertical than is generally supposed, especially when empty. In estimating atonic dilatation, especially in its lesser degrees, the area of the cardiac moiety is therefore to be carefully observed. The stomach may drop as a whole into the mid-abdomen or hypogastrium and this independently of more general enteroptosis. Gastroptosis is not necessarily attended with dilatation. In this case the stomach assumes a wallet shape, the cardiac and pyloric orifices approaching each other; or if the pyloric end slip more than the cardiac the position of the organ is more vertical and to the left. In this latter case the more muscular pyloric moiety is apt to become dilated by the gravitation of retained contents. The relation of gastritis to dilatation of the stomach is little understood. It would seem that excess of hydrochloric acid is not necessarily, or perhaps usually, in its earlier stages a consequence of gastritis; it may rather be the cause of it. During life the presence or extent of gastritis is often assumed on very slender grounds and even our post-mortem knowledge of it leaves much to be desired. Relaxation of the stomach due primarily to muscular failure, and therefore appearing first in the pouch and fundus, may depend upon toxic causes or mere atony. Such gastric distension, advancing to dilatation, not uncommonly retards convalescence from such diseases as typhoid fever and rheumatic fever. When the condition follows slow digestion with fermentation, anæmia, or mere inanition the muscular failure is primary. That spasm of the pylorus may cause dilatation of the stomach, as, for example, in ulcer, hyperchlorhydria, or lumpy contents of the stomach, seems not improbable. Such morbid action is consistent with what we know of other sphincters; but atonic dilatations rarely seem big enough to be due to a permanent spasmodic contraction of the pylorus, nor is the muscular coat, as we should expect, hypertrophied. In atonic dilatation peristalsis does not become visible. That the nervous system may be concerned in paresis of the stomach seems likely enough from cases which have been observed. Not only may continuously depressing causes act in this way, but sudden and grave mental shock may be quickly followed by considerable atonic dilatation of the organ. Alcohol may act directly as a poison to the muscular fibre or indirectly by extension of inflammation outwards, and thus be a cause of dilatation. Atonic dilatation of the stomach is no rare consequence of exhaustion by excessive athletic exertion or mental stress, especially in young people of delicate constitution. Dilatation of the stomach is far from being rare in little children and infants, in whom it often comes on acutely; but if the condition be understood it is readily relieved by an emetic or the tube. The *symptoms* of atonic dilatation, to an observer not forewarned, are often indefinite if not misleading. There may be little or no loss of appetite or dyspepsia; in an early stage of the disorder food often relieves a sense of sinking. Vertigo, sleeplessness, heaviness, lassitude and fatigue, and mental depression may divert attention to the nervous system. Flatulence, indeed, is rarely absent, but the tongue may be clean, vomiting slight or absent, the bowels constipated, or the stools occasionally lienteric. The heart is apt to flutter or to intermit and the abdominal aorta to throb. In extremer cases the pulse falls in volume and pressure, the hands become chilly, the nails livid, and the face thin, drawn, and sallow. By physical signs we may determine the size and position of the stomach. In thin persons gastroptosis is not difficult to ascertain (in well-nourished persons it never seems to occur) and it is for the most part curable by rest, massage, and better nutrition. When, as is usual, the dilated stomach occupies (approximately) its normal position detection of the disorder by physical signs will, generally speaking, be easy. Under ordinary circumstances peristalsis is never visible, as in obstructive dilatation, and the signs of distension are chiefly notable to the left of the middle line and under the lower ribs; the ballooned stomach is apt to push up the diaphragm and to encroach upon the thorax. The area of resonance may rise to the fifth or fourth rib and may extend to the posterior axillary line. Such a stomach often accompanies diseases of the heart and plays a large part in the patient's distress. Physical examination must be made at various periods of digestion and when the stomach ought to be empty. In health the stomach after a meal should contract upon its contents, when an area of dulness rather than of resonance will become apparent. Even in acute indigestion there is a considerable grip of these contents, a grip often attended with stomach-ache, but in atony, with or without static dilatation, an area of resonance at the cardiac end will be found almost immediately after a meal; even four or five hours after a meal the vault remains high and, behaving capriciously under gaseous influences, at no time does it contract in any regular periods. Thus the pyloric moiety, in its turn unable to withstand the gravitation of its contents, increases from its comparatively small transverse diameter until the stomach as a whole may assume a uniform, thick, sausage shape, the upper outline of which may include the nipple and the lower the navel. Strangulation by sharp flexure of the pyloro-duodenal portion may occur in particular cases but such cases are not so common as we suppose. Dropped kidney is often rather in association with atonic dilatation or gastroptosis than a cause of them, though Sir William Bennett and Mr. Bidwell have incidentally relieved dilatation by fixation of a right kidney. Dilated colon may be mistaken for a dilated stomach, and in rare cases the error may be unavoidable; but in the vast majority of instances by discriminating percussion, even without intubation, these two organs may be distinguished. The stomach may no doubt be wholly concealed by the colon, but ordinarily some narrow area of stomach resonance can be obtained, when a difference of percussion-note, either in pitch or clang, can be made out. In difficult cases syphonage or insufflation may help us; Von Ziemssen recommended in such cases alternate inflation of colon and stomach. The tuning-fork, ausculto-percussion, and coin-tapping, in my experience, add little or nothing to what careful percussion can reveal. In a healthy stomach no "squelchy" sounds should be obtainable; they are usually obtainable in atonic dilatation but rarely amount to the succussion splash of obstructive dilatation. If before breakfast "squelching" can be obtained after the drinking of a tumbler or two of water we have to deal with a flabby and extended stomach. The use of the tube is of cardinal importance for diagnosis if not for treatment, but among private patients in England this method is resented, and makes but little way. The normal fasting stomach contains at least from 20 to 30 cubic centimetres of residual fluid, and may hold even 100, but quantities above 100 cubic centimetres are morbid. In the normal state this residuum should not contain any particles recognisable as remnants of food; seeds, grit, or fibre in vomit or stool should be carefully noted and the date when they were swallowed ascertained. The larger the residuum and the more obvious the relics of food the worse the case. A considerable admixture of mucus may indicate the presence of gastritis. In atonic dilatation sarcinæ and torulæ are not usually found, lactic acid but rarely and in small quantity. The quantity of water accepted by the stomach gives us little information, individual tolerance is very variable, but in atonic dilatation the return of it is very feeble, or perhaps is obtained only by expression or syphonage. Illumination of the stomach from within is of little service. From radiography we may

hope for some more information. Chemical tests for the delay of ingesta, such as salol or potassium iodide, may corroborate but cannot dictate a diagnosis. The *treatment* of atonic dilatation must largely depend upon the causation of the individual cases; particular symptoms will often indicate the means of their own palliation. Vertigo, often very severe, and lassitude after meals often depend upon distension of the stomach and may be quickly relieved by careful regulation of diet and restriction of fluid at meals to the lowest quantity. In sleepless cases, besides these measures, hydrotherapy expertly carried out is often the more useful as it takes the patient away from work and care into a bracing climate. In heart disease, after much disappointment in the use of specific remedies, the cure or relief of an atonic dilatation of the stomach may be attended with remarkably good effects. Such patients, under the guise of a light diet, will consume quantities of farinaceous puddings, often well sugared, which disengage gases readily. Thirty years ago I traced a state of anæmia and debility apt to appear in colliers and others engaged in similar work to dilatation of the stomach, a dilatation due to want of home meals and to the consumption of large quantities of liquid with heavy food rich in carbohydrates. Mastication must be carefully provided for and papain I have found to be a very useful aid in digestion. The abuse of corsets and belts must not be overlooked. In these cases rest not only after but also before meals is of importance. In some emaciated persons the full Weir Mitchell system may be necessary, especially in gastroptosis; in all a long rest and change of air are of the first importance, nor should such persons on returning to their ordinary occupations expose themselves again to excessive stresses and other causes of exhaustion."

Dr. N. BARDSWELL (Banchory) made a communication on the subject of Dilatation of the Stomach in Cases of Pulmonary Tuberculosis. As the result of his inquiries he had arrived at three conclusions. 1. In cases of early disease of from three to six months' duration the stomach was normal in size and in these cases generous ordinary diet could safely be given. 2. There was a tendency for prolonged over-feeding to cause dilatation, and this dilatation might exist without any symptoms of dyspepsia. In the event of a relapse, however, this condition, as a probable precursor of atonic dyspepsia, would certainly be a cause of anxiety. Clinical experience suggested that, other things being equal, the longer such patients were kept at absolute rest (and such treatment usually implied the existence of fever) the greater the tendency to atony and dilatation. 3. Tuberculosis cases admitted with acute extensive disease would probably be some three to six months before losing their fever and consequently would require to be at rest for that period, and would run greater risks of developing atonic dyspepsia and later dilatation of the stomach than any other type of consumptive. The prolonged administration of huge ordinary diets to consumptives of this clinical type, especially after the development of symptoms characteristic of atonic dyspepsia, was, in his opinion, absolutely unnecessary and unjustifiable in view of the serious prognosis which must be given when active pulmonary tuberculosis was associated with dilatation of the stomach. During the past two years he had had under care eight patients (originally of the acute type of pulmonary tuberculosis now under consideration) who had previously been some six months in sanatoriums where excessive feeding was practised. In five of these patients there was definite enlargement of the stomach, and in each case this was associated with marked anorexia, dyspepsia, vomiting of yellow fluid before breakfast, and general malaise.

Sir WILLIAM BROADBENT (London) remarked that his experience confirmed that of Professor Clifford Allbutt as to the frequency of the occurrences of gastric dilatation and atony. It was associated in a very large number of cases with symptoms which many would regard as simple "dyspepsia." In acute rheumatism and in pneumonia he had met with a severe degree of dilatation. In women who starved themselves the condition was also often met with. As to the symptoms of atonic dilatation they were, in his experience, largely nervous. He had seen enormous degrees of dilatation, atonic in origin, confirmed at an operation which had been previously overlooked because during the day the stomach emptied itself. Among the symptoms which were not generally recognised anginoid pains should be mentioned. This spurious angina, unlike true angina, was apt to come on at night, or after rest, or after meals instead of after exercise as in true angina. Palpitation and vertigo also resulted from dilatation. The vertigo was rather an unsteadiness or feeling of loss of balance, and very often eructation of wind relieved it. Attacks of asthma at night and nocturnal symptoms of other kinds were, in his belief, usually due to dilated stomach and were probably of mechanical origin. Among the proofs of the mechanical explanation was the fact that some cases got better of these symptoms when the stomach dropped. Tetany might be associated with gastric dilatation and reference was made to a case in illustration. He had found that ausculto-percussion and the echo of the heart sounds, especially the second sound, afforded valuable confirmatory evidence of gastric dilatation. Reference was made to a case of hæmorrhage from a dilated stomach, the condition having been confirmed at subsequent operation. Turning next to the question of treatment, he had been in the habit of relying on lavage of the organ with sulpho-carbolate solution. This should be done last thing at night in preference to the morning, for a large proportion of the symptoms arose from decomposition within the stomach at night.

Professor MUSSER (Baltimore) wished to confirm in general terms the remarks which had been made by Professor Clifford Allbutt in opening the debate. He drew a distinction between atonic dilatation of the stomach with and without ptosis. Cases associated with ptosis and hyperchlorhydria were often toxic or neurotic in origin, and were met with in persons of an artistic temperament and other neurotic subjects. Similar cases occurred in association with sexual defects and perversions of various kinds, with which he believed gastric atony had a direct causal relation. Among the toxic conditions tobacco, tea, and various septic conditions might be mentioned. In some cases of gastric atony there might be no symptoms at all; others presented all the symptoms of neurasthenia. As a means of diagnosis he was accustomed to rely on inflation by means of a tube, but care must be taken not to distend the stomach too much. This method, combined with percussion, he had very often found trustworthy. In the treatment there were many factors—the social condition, the environment, and the work of the patient—which had to be taken into consideration, and the best results were obtainable by attacking the causes.

Dr. T. D. SAVILL (London) said that he would confine his remarks to that form of gastric dilatation (gastric atony) which arose independently of organic disease, malignant or benign. The diagnosis of this condition was undoubtedly very difficult, and the modern methods to which reference had been made, though difficult of application, were undoubtedly of great value. The occurrence of splashing several hours after a meal when the stomach should be empty was suggestive. He had found that giving the patient a draught of effervescing mineral water was a valuable aid to percussion or ausculto-percussion, and this obviated the use of the tube to which patients so strongly objected. The condition was undoubtedly more frequent than was generally suspected. He had often found it associated with neurasthenic symptoms which remained unrelieved until the gastric atony was attacked. As regards the treatment he attached considerable value to two means. The first was what was known as the Salisbury diet which consisted of meat only—that is to say, nutrition in a dry, concentrated, and easily digestible form, without fluid at meals. There were four important principles embodied in this treatment: it gave the organ comparative rest; it diminished the bulk of the food considerably, and enabled the enfeebled muscular wall to regain its tone; it introduced a principle of relativity, for it was a considerable alteration in the patient's ordinary diet; and lastly, it prevented the decomposition which was so apt to take place in farinaceous food, and the consequent absorption of a quantity of fermentative toxic substances which so damaged the patient's general health. Dr. Savill attached great importance to the use of the galvanic current, both to the stomach and the pneumogastric nerves. With, and even without, diet he had seen very marked and valuable effects produced in this way and he referred to cases by way of illustration. Drugs did not seem to be of much use, but the administration of amylaceous ferments, such as taka diastase, was undoubtedly a useful aid to other methods.

Dr. HARRY CAMPBELL (London) remarked that the essential cause of dilatation of the stomach was gaseous distension. He pointed out that solids and liquids could not exert a pressure greater than their own weight, but that intragastric gaseous pressure might be much greater than this;

indirectly, however, solids and liquids might augment gaseous pressure by diminishing the space in the stomach available for gas. Hence in treating gastric dilatation, a non-flatulent diet should be given, and it should be as concentrated as possible. He would not inflate the stomach for diagnostic purposes if there was any cardiac failure, but he thought that the stomach might in most cases safely be blown up by bicarbonate of soda and tartaric acid, and in this connexion it was useful to remember that 53 grains of the former and 45 grains of the latter yielded at the temperature of the body one litre of the gas. Dr. Campbell found simple percussion a trustworthy means in a large number of cases of determining the lower gastric border; auscultatory percussion had not yielded such satisfactory results in his experience. The splashing sound he did not regard as diagnostic unless it occurred from four to six hours after a meal. The depression of spirits which occurred in dilatation might not be due merely to toxæmia; it might result from mechanical causes, for the most profound depression would sometimes disappear suddenly upon the eructation of gas.

Dr. ALFRED R. PARSONS (Dublin) wished to draw attention to the hydrochloric acid test as a means of detecting the presence or absence of malignant disease, and he referred to a case in which the presence of hydrochloric acid enabled him with other symptoms to exclude malignant disease as a cause of gastric dilatation. The absence of hydrochloric acid was not of itself distinctive of cancer, for it might occur in Addison's and other diseases. Splashing four to six hours after a meal was a valuable aid to diagnosis of gastric atony. He made reference to two cases of tetany associated with gastric dilatation. One of these cases raised the question of the value of operation in some cases of gastric dilatation.

Dr. A. MANTLE (Halifax) made reference to the neuro-vascular supply of the stomach and expressed the opinion that a study of the anatomy of this region might explain many of the symptoms. These patients often complained of coldness of the extremities. He thought that tobacco-smoking might be included among the causes. Rest was an all-important factor in the treatment and he referred to a patient in the Halifax Infirmary.

Dr. W. CALWELL (Belfast) thought that it was very difficult to distinguish minute refinements of differences in the size of the stomach. He referred to bolting of food as a cause of dilatation and mentioned a case in point. Most cases of gastroptosis were associated with some change in the secretion of hydrochloric acid. Dr. Calwell attached considerable importance to the estimation of the hydrochloric acid. If there were excess of free hydrochloric acid it pointed strongly to gastric ulcer. If it were absent when examined on two or more occasions the case was probably malignant. He had found less difficulty in the use of the tube than had some of the other speakers, and he regarded its use as a very valuable adjunct to the diagnosis.

Dr. W. PAGE MAY (London) showed some lantern slides of Tracings obtained in an Investigation on the Movements and Innervation of the Stomach carried out last year in the physiological laboratory of University College, London, chiefly on anæsthetised dogs and monkeys. The tracings showed that the gastric tone and movements were largely dependent on the extrinsic nerves of the stomach—notably the vagi and splanchnic nerves. Stimulation of the vagus produced diminution of the gastric tone and movements followed by an increase. Anæmia artificially produced by blocking the thoracic aorta effected a diminution of the gastric tone and movement. Stimulation of a sensory nerve, as shown by previous observers, produced a similar effect. Therefore it was natural to conclude that disorder of the extrinsic nerves of the stomach must influence, and in many cases favour, the production of atony or dilatation of the stomach.

Sir W. MITCHELL BANKS (Liverpool) read a paper on a successful Case of Gastroplication of the Stomach. The patient was a man, aged 36 years, who was admitted to the Liverpool Royal Infirmary in October, 1899. He had been a cavalry soldier and had drunk hard while in the army. For three and a half years previously to admission he had suffered from a very aggravated degree of symptoms referable to the stomach which no treatment would alleviate. Dietetic treatment and systematic lavage were tried without effect, and on Nov. 10th, 1899, Sir W. Mitchell Banks removed a strip from the anterior wall of the stomach six inches long by three inches broad. The patient made an excellent recovery; he had been seen at frequent intervals since and had derived very great benefit from the operation. All his old symptoms had disappeared. It was of great importance to watch these cases after operation before deciding the verdict as to cure and that was why this case had not been published before. Such operations were generally described as "operations of complaisance"—i.e., were not necessary to save life. But in this case the patient would probably have died without the operation. Sir W. Mitchell Banks concluded by giving an outline of the history of the operation and discussing the relative merits of the different methods, and he again emphasised the necessity of prolonged observation before coming to a conclusion as to the result.

Professor CARL VON NOORDEN (Frankfort-on-Main) read a paper on the Dietetic Treatment of Chronic Granular Kidney, giving a preliminary report on his investigations on the excretory power of the diseased kidneys. He did not consider that the administration of such drugs as iodide or salicylic acid gave a true test of the excretory power of the kidneys, nor was the hypodermic injection of phloridzin of use in this respects, for none of these substances gave a true index of the power of kidneys to secrete urea and the natural constituents of the urine. The functional power of the kidneys could only be measured by an exhaustive chemical examination of the urine. As a result of his inquiries he had come to the conclusion that although nitrogenous substances should be given in only limited quantities in acute renal disease a fairly liberal amount might be allowed in chronic renal disease. The amount of water allowed to be taken might be one and a half litres per diem but more than this was not desirable. More fluid than this threw too much work on the heart, which was always damaged in these cases. In regard to the nature of the solid food he had not found red meat any more harmful than the white flesh of rabbits and chicken. Mariensbad and Carlsbad treatment was distinctly unsuitable for cases of chronic Bright's disease. His investigations went to show that these cases wanted plenty of strengthening food, not a lowering diet, and such patients did much better under immediate medical supervision in hospitals or sanatoriums.

SURGERY.

WEDNESDAY, JULY 30TH.

After a few opening remarks by the President of the Section, Mr. JAMES HARDIE (Manchester), a

Discussion on the Treatment of Inoperable Cancer

was opened by

Mr. HENRY MORRIS (London) who first defined what he meant by "cancer" and the term "inoperable." There were for practical purposes four groups of inoperable cases: (1) primary cancer affecting inaccessible parts or vital organs; (2) primary cancer which, although at first removable, had advanced beyond the limits within which a local operation was prudent and complete removal possible; (3) certain cases of acute diffuse carcinoma and very rapidly growing or widely infiltrating new growths of exceptionally virulent character; and (4) recurrent carcinoma where the disease had recurred in many places or in parts where it was impossible to reach it. He described the treatment employed for these cases, criticising the methods under the two following heads: (*a*) the employment of remedies and methods other than the knife, to cure, to ameliorate, or to retard the disease, as well as to prevent relapses after its removal; or (*b*) the employment of the knife to give relief from pain, to prolong life, to restore function, and otherwise to make the patient's condition more tolerable. Comparisons were drawn between the results of treatment with Coley's fluid and Beatson's treatment and then the modern physical methods of treatment were fully considered. First, Finsen's light treatment for rodent ulcer; second, the treatment of malignant disease by the high frequency currents; third, the treatment of rodent ulcer with the x rays; and fourth, the treatment of sarcoma and carcinoma with the x rays. After a careful review of these methods he arrived at the following conclusions. 1. That the serum treatment of malignant disease is not of the slightest use in carcinoma; that not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid; that in cases of sarcoma, other than the spindle-celled, Coley's fluid is not of value; and that the treatment by Coley's fluid has many dangers and should never be employed except in absolutely inoperable cases. 2. That Beatson's

treatment is limited in its action to cases of mammary carcinoma, and the local and glandular recurrences after mammary carcinoma; and that even in these cases only a small proportion are influenced by the treatment, whilst neither as a cure nor as a palliative can it be relied upon in any given case. 3. That rodent ulcer has in Finsen's light and in the x rays its most successful treatment, so far as we know at present; and that this is true not only of cases otherwise inoperable, but also of operable cases, because of their excellent cosmetic results and of their effect upon insidious and non-evident foci. There are, nevertheless, cases of rodent ulcer which resist the light and the x rays treatment, and some of these cases are successfully treated by excision and caustics. 4. That sarcoma, epithelioma, and the other forms of carcinoma are best treated, whenever possible, by early excision; and that all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects and untrustworthy as to the durability of the results they produce. In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain. 5. That the boundary line between what are considered operable and inoperable cases needs revision from time to time; that the tendency to extend the limits of operable cases needs in some instances to be restricted, and in others possibly there may prove room for fuller extension. 6. That it is open to question whether some of the operations performed for relief or prolongation of life in inoperable cases of malignant disease should not be abandoned and whether in other cases palliative operation ought not to be more often performed. 7. That investigations into both the cause and the nature of cancer are of the first importance as being more likely to lead ultimately to the cure than excision. 7. That with few exceptions the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile. 9. The complete ignorance as to the cause, nature, and curative treatment of cancer has long pointed to the necessity of instituting a comprehensive, collaborative, and coöperating inquiry into the whole question of malignant disease; and that it was a source of great satisfaction to know that at last, though with great difficulty, sufficient funds have been raised to enable the two Royal Colleges to make, at any rate, a beginning in this wide-reaching and unspeakably important subject. It was devoutly to be hoped, albeit it may be too sanguine to expect, that the result of these researches may be to discover, not only the cause and curative treatment of cancer, but the means of its prevention as well.

Dr. G. T. BEATSON (Glasgow) said there were two points upon which emphasis should be laid in dealing with the question: one was the capriciousness of carcinoma and the other that there was such a thing as a spontaneous cure of cancer. In spite of these facts, early, bold, and free removal of the disease was the only primary treatment that could be recommended. But by such cases of spontaneous cure an element of hope is introduced. The non-operative treatment of carcinoma naturally falls under two headings—the general and the special. The general treatment is to ward off the common causes of death in such cases, to alleviate pain, &c. In connexion with the latter he had had much success with the administration of phenacetin in doses of from 10 to 15 grains thrice daily. There were no bad effects from it and he thought morphia should therefore be avoided. With regard to special methods in the treatment of inoperable carcinoma, he considered a generous diet as essential, that thyroid extract was the drug which seemed to have the most marked effect, altering, he believed, the relation between epithelium and the lymphatic system, the thyroid stimulating the latter. It must be given in suitable doses. He had tried up to 250 grains daily, but considered small doses of from three to five grains three or four times daily as the best. With regard to x rays, they had to be very carefully handled. With care undoubtedly good results had been seen but harm may develop on account of the reaction which may be induced. He alluded to some cases in which after x-ray treatment sudden œdema and other serious symptoms occurred. The method of oöphorectomy he was anxious should be judged entirely on its merits. He had never mentioned "cure" in relation to it, but the treatment was placed before the profession because he felt that they should review its effect themselves. After watching the matter closely now for several years he had come to these conclusions. At present oöphorectomy was only applicable in carcinoma originating in the mamma; it was not contra-indicated after the menopause, but the best results seemed to occur after 40 years of age. It was impossible to say in what cases the benefit would arise, but slow-growing cancer yielded most readily. Further, large as well as small nodules would disappear in favourable cases, but visceral and bony deposits remained unaltered, while lymphatic glandular growths underwent retrogressive changes. These almost invariably gave relief from pain and improvement of general health. That in some instances there was only a transient benefit and fresh nodules appeared, while in others relief has been obtained from four to five years. Oöphorectomy was certainly not to be used as a substitute for free local removal, but he believed that it had done no harm in its performance, and it does give some evidence of the lines on which to work and to investigate.

Mr. THOMAS BRYANT (London) dwelt chiefly upon the effects of x rays, with which he had had some happy experience. He considered that they should be employed in all cases of inoperable carcinoma but not to take the place of the knife in those suitable for operation. The rays alleviate pain and cause the disappearance of nodules and ulceration. He related cases of pure recurrent carcinoma of the mamma which had been greatly benefited. In one case a cystic change had occurred in the nodules, the spaces containing a mucoid material indicating metabolic changes in the cancer cells. In another, distant lymphatic gland swellings had vanished with only a local application of the rays to the recurrent growth itself. He had had good results in a case of carcinoma of the rectum and another of cancer of the uterus, in which the rays were applied, but without the aid of a speculum. Such results should not be stated as a cure.

Professor R. B. WILD (Manchester) spoke from the point of view of a physician with an experience of 10 years, in which he had seen undoubted cases of spontaneous disappearance of cancer growths. He had tried many of the newer methods of treatment of inoperable malignant growths. Coley's fluid was of no use in carcinoma and in advanced cases of sarcoma there was grave danger of reaction, which might be serious. Thyroid extract, even in small doses, in advanced cases seemed to have a bad effect, causing loss of weight, &c., although the cancerous growth might shrink. Arsenic he had given largely and in many forms, but had seen no benefit whatever. The best non-operative treatment was to relieve pain and to maintain nutrition. He believed in opium first and phenacetin second for the former purpose. When morphine had to be increased to large doses he omitted it altogether for a week, giving hypodermic injections of $\frac{1}{100}$th of a grain of hyoscyne in place of it, and then restarting morphine in small doses. He considered that morphine improved nutrition and that the exhibition of doses of alcohol did the same.

Mr. W. F. BROOK (Swansea) said that the results of x-ray treatment were most encouraging in some cases and most disappointing in others. He had seen good results in epithelioma of the scrotum and no improvement in some cases of epithelioma of the lip. He had performed proctotomy and applied x rays directly to the growth without any benefit. But he had seen good in cases of carcinoma mammæ, particularly in one patient, whom he showed to the section, in which after 41 sittings the growth had clinically gone, a goitre in the same patient being entirely unaffected. The value of x-ray treatment he believed to be fully established, but it was impossible to predict in what cases good would follow. He thought that in some instances the application of x rays might advantageously precede local operative treatment.

Mr. F. B. JESSETT (London) was convinced of spontaneous cure of carcinoma and cited cases of it. He had had experience of five cases of oöphorectomy. In two there had been a relief of pain but in none could he say there was an appreciable diminution in the growth. One case of oöphorectomy in a woman without cancer developed it in the mamma five years after the laparotomy. He was disappointed with the result of x-ray treatment except in some cases of rodent ulcer.

Dr. B. G. FERGUSON (Cheltenham) had recorded one of the earliest cases of x-ray treatment of recurrent carcinoma, in which 20 applications had caused the growth utterly to disappear. No reappearance came for eight months, when some nodules were seen. Another series of 20 applications caused their removal as well as that of some glands in the axilla. He would not advise commencement of treatment by

the rays but free removal by the knife. In rodent ulcer good results had followed the use of the rays. Incidentally he mentioned the benefit which had followed their application in sinuses after nephrectomy. He had used chloride of zinc paste in carcinoma with satisfactory results.

Dr. LOVELL DRAGE (Hatfield) advocated the use of cinnamon of sodium in glycerine by hypodermic injection. Half-drachm doses of the glycerine solution caused no unpleasant symptoms but a marked relief from pain.

Dr. HERBERT SNOW (London) agreed as to the local incidence of cancer, the corollary to which was that primarily inoperable cases ought to be few and far between. He did not believe in any instances of spontaneous cure; all these must be placed in the category of mistaken diagnosis. Nodules on the thorax after removal of carcinoma might seem to disappear but they were always there though less apparent. Early and free removal should prevent their occurrence. He had seen oöphorectomy performed 10 or 12 times. Two or three times brawny œdema had disappeared but in another two cases chronic insanity had supervened. He did not believe in the value of x-ray treatment, referring the apparently good effects to mental impression and the burning action of the rays. Opium was not lethal to cancer cells, but it was nevertheless of great benefit. It should not be pushed to great doses and at the same time all means should be adopted which diminished the force of the heart and equalised the circulation. In this matter he strongly deprecated the use of alcohol. Cocaine should be combined with morphine when intestinal cancer was present. He sincerely believed in the destruction of cancer cells by the lymphatic gland tissue.

Dr. H. MANDERS (London) referred to the treatment by high frequency currents and desired that failures as well as successes should be reported if progress was to be made. In carcinoma the elimination of urea was markedly lessened and the effect of the high frequency currents was to increase metabolism as evidenced by the increased percentage of urea passed. These currents also had a bactericidal action and if carcinoma was due to a parasite, which he thought highly probable, they might act in this manner also. The body itself governed the oscillations of the high frequency currents and the tissues had a different relation to them in health and disease.

Mr. J. PAUL BUSH, C.M.G. (Bristol), said that his experiences in the x-ray treatment had been most disappointing, for he had not as yet seen any case of undoubted carcinoma in which the improvement had been of a permanent nature. He further believed that Coley's fluid might be a very dangerous material to use.

Mr. J. D. MCFEELY (Dublin) alluded to cases of advanced rodent ulcer in which he had obtained most satisfactory results from the free use of pure formalin, applied with the patient under an anæsthetic on account of the severe pain during the actual treatment.

Mr. ALEXIS THOMSON (Edinburgh) presented to the section an elaborate analysis of the cases of oöphorectomy published up to the present in British medical literature.

The following papers were taken as read:—

Mr. J. PAUL BUSH, C.M.G.: The Treatment of Deformities of the Face by the Subcutaneous Injection of Paraffin.

Dr. J. WALKER DOWNIE: Injection of Paraffin in Nasal Deformities.

Mr. E. STANMORE BISHOP: Methods of Uniting Divided Intestine, with special reference to a new Bone Bobbin for that purpose.

Professor F. VALENTINE (New York): The Diagnosis of Urethral Disease.

PATHOLOGY.

WEDNESDAY, JULY 30TH.

The PRESIDENT, Professor Sheridan Delépine (Manchester) said that valuable time would be saved if the section would proceed at once to the business of the day.

Dr. FREDERICK W. MOTT (London) opened a discussion on

The Pathology of Nerve Degeneration,

confining his remarks principally to the chemical aspect of the subject. The first part of his paper had already been recorded in his Croonian lectures of last year and embodied his researches in the chemistry of the Marchi staining method. He found that the amount of phosphorus in the spinal cord after section of a peripheral nerve (the sciatic) varied inversely as the black staining of the cord with Marchi's fluid. He concluded from this that the lecithin of the normal nervous tissue was split up into fat and glycerophosphoric acid. The evidence of the change was to be found in the presence of choline in the cerebro-spinal fluid. Turning to the clinical aspect of these researches he had found that choline was increased in the blood in general paralysis, beri-beri, and other nervous diseases, and he suggested that this increase of choline might be used as a test for the presence of organic disease of the nervous system where a doubt existed between this and functional disease. In the second part of his paper Dr Mott expressed his suspicion that stimulus from nerve-cells might play an important part in nerve regeneration. This stimulus was excluded by cutting the posterior nerve roots when he found that regeneration took place less readily. He believed that the neurilemma cells were important factors in the regeneration of the axis cylinders.

Dr. JUDSON S. BURY (Manchester) remarked on some of the clinical aspects of peripheral neuritis. He drew attention to the acuteness and severity of some cases which presented the type known as Landry's paralysis and also to the curious persistency of many cases of neuritis, however caused, even when the degree of neuritis was obviously slight.

Dr. A. WILSON said that the earliest changes in the fibrillæ consisted of a loss of the capability of staining with such dyes as toluamine blue. It was important to know that the dye entered into combination with the tissue to form a salt. In degeneration this faculty of forming a salt with the dye was gradually lost. In referring to the neuron theory, he said that the degeneration of a severed neuron must cease at the end organ of the nerve. If it passed beyond this the cells affected were not a part of the neuron and the theory fell to the ground. He illustrated the degeneration spreading beyond the end organ of the nerve by section of the glosso-pharyngeal nerve in which the end bulbs of taste disappeared.

Dr. J. PURVES STEWART (London) referred to Waller's paper in 1850 and Ranvier's work in 1873. He showed on the screen sections of nerves in the chief stages of the process of degeneration. Degenerative changes occurred in the distal segment of a divided nerve whether it was sutured immediately or not. Primary union without degeneration did not occur. The degenerative changes also affected a small part of the proximal segment in the neighbourhood of the wound of division. The cellular changes in degeneration consisted of a transient invasion of leucocytes which were later replaced by connective tissue cells which at the end of five weeks had absorbed all the myelin. These connective tissue cells were then replaced by proliferated neurilemma cells which became elongated and ultimately formed fibrous tissue. The neurilemma cells began to proliferate on the second day after the injury and arranged themselves in longitudinal columns with overlapping protoplasmic processes. Fragmentation of the medullary sheaths and axis cylinders began on the fourth day. Regeneration overlapped degeneration in point of time. In the distal segment of a reunited nerve "spider cells" shot out axis-cylinder processes from their opposite poles at the end of three weeks. These neuroblasts were the neurilemma cells and the threadsd fused into a continuous axon. The new medullary sheaths were similarly formed from the neurilemma cells. In a nerve five months after immediate suture the nerve fibres appeared practically normal. In the distal segment of a non-united nerve the process of regeneration was essentially the same, but the new nerve fibres did not attain full maturity. The well-known end bulb of the proximal segment was formed at first by the curling back of the ends of the divided nerve fibres and subsequently there was a disposition of new axis cylinders and medullary sheaths from the proliferated neurilemma cells. The deduction from these facts was that since regeneration occurred in the distal segment of a non-united nerve the so-called "neuron" theory of Weldeyer could no longer be maintained. The speaker would substitute the fibrillar theory of Apathy, according to which the nerve fibrils were the essential elements of the nervous system. The nerve cells acted as convenient shunts and the central nervous system was one vast exchange transmitting nerve impulses from one part to another. The central nervous system, however, exercised a profound influence on the peripheral nerves without which the new fibres of the distal segment did not attain maturity. Two factors were, therefore, necessary for the complete regeneration of a nerve fibre: (1) the presence of neurilemma cells; and (2) the re-establishment of conduction of impulses to and from the central nervous system.

Professor C. S. SHERRINGTON (Liverpool) said that to quote degenerative changes in muscle and gland as results of section of peripheral nerves was no valid argument against the neuron theory. The view advanced on what appealed to them as urgent grounds by Dr. Purves Stewart was not in the least incompatible with the neuron theory. It merely made the peripheral nerve fibre a chain of neurons instead of a single neuron and explained the degeneration of the links at the peripheral end of the chain as due to the same kind of influence by one neuron upon another as was exerted by neurons upon striped muscle fibres.

Sir VICTOR HORSLEY (London) spoke in support of the neuron theory. He considered the changes described by Dr. Purves Stewart to be those of nutrition. In Gowers's tract the spino-cerebellar part never degenerated downwards. He found that in regard to this tract the neuron theory was borne out. If the superior cerebellar peduncle was divided in a cat the coarse fibres degenerated towards the brain, the fine fibres towards the cerebellum.

Dr. MOTT replied.

Dr. D. CHALMERS WATSON (Edinburgh) gave a kinematograph and lantern demonstration on

Nervous Diseases in the Lower Animals.

The animals shown on the screen were a puppy and a horse. The former had suffered from paralysis, ataxia, altered sensibility, and other symptoms; the gross morbid lesions found at the necropsy were those of imperfect development of the brain convolutions and chronic hydrocephalus. The latter was a case of stringhalt and an exhaustive histological examination showed advanced morbid changes in the nervous system and elsewhere, the origin of which was probably bacterial.

A lantern demonstration of specimens from a case of Arrested Development of the Olivo-pontine Cerebellar Complex accompanied by Spina Bifida and other Developmental Peculiarities was given byMr. KEITH W. MONSARRAT (Liverpool) and Dr. W. B. WARRINGTON (Liverpool).

Dr. WARRINGTON read a paper on the

Anatomy of the Nervous System in a Case of African Lethargy,

and showed sections of the pathological conditions present. The pathological process was one of subchronic leptomeningitis. The characteristic pronounced feature was perivascular infiltration of round cells. No one part of the brain was more affected than another. His examination of the nervous system agreed with Dr. Mott's description of these cases. There were no micro-organisms similar to those recently described.

Sir VICTOR HORSLEY and Dr. MOTT discussed the paper and Dr. WARRINGTON replied.

DISEASES OF CHILDREN.

WEDNESDAY, JULY 30TH.

Professor T. M. ROTCH (Harvard University) opened a discussion on

The Modification of Milk in the Treatment of Infants.

In an elaborate paper supported by numerous statistical tables he urged the necessity in the consideration of this question of securing terms having a definite and universal significance. Conflicting opinions were, he considered, due, at least in part, to the absence of precise and exact definition, and in any case it was a necessity for profitable comparison and discussion that all should attach one and the same meaning to each of the terms to be employed. The exact analytical methods of modern chemistry rendered this now possible, and the question of infant feeding ought therefore to be removed from the region of vague generalisations to the exact domain of percentage compositions. The physician ought to free himself from the empirical methods of the nurse and from the tyranny of the manufacturer of artificial foods and to prescribe the nutrition of his infant patients with the same exactness and knowledge which he adopted in the administration of drugs. There could be no doubt at all that the best food for young infants was the natural supply of breast milk, but it was equally certain that circumstances of various kinds compelled the physician not infrequently to find a substitute for this. And in this endeavour it was necessary to remember that human milk differed widely in its quantitative composition. To copy nature's processes successfully, therefore, the physician must be able to vary the percentage of proximate principles in the substitute food he prescribed according to the requirements of the individual infant—a principle important in health but still more important in the treatment of disease. There was no dispute that a substitute food must be the milk of some animal. The difficulties of the question arose from the fact that every such milk for purposes of infant feeding required modification. Such modification was usually effected by a rough empirical method. It was desirable to replace this by precise and definite processes so that the physician should be aware of the percentage composition of the nutriment ordered for the child and should be able to vary this from time to time as might be necessary. The first essential was to secure pure milk of good quality, of known quantitative value, and free from bacterial contamination; the second was the safe transmission of such milk without change from the source of supply to the individual infant; and the third was the capacity to vary the composition of the food as the judgment of the physician directed. To secure this programme every step in the process must be under medical supervision. Professor Rotch then gave a graphic account of the organisation of the milk-supply in connexion with the Gordon-Walker milk laboratories. He described the feeding, toilet, and housing of the cows, the steps taken to prevent contamination, and the methods employed to provide milk of known composition. As a result of these the laboratories were able to supply milk with various percentages of fat, carbohydrates, and proteids, and similarly to adjust as might be required the relative proportions of the caseinogen and whey proteids. The physician therefore prescribed the food of the child with the same confidence that he sent directions for drug treatment to the pharmacist. The milk laboratory and store were conducted with the same intelligence and care as ruled the conduct of the pharmacy. It had been found readily possible to convey milk obtained as described even 1000 miles without change and without prejudice to its nutritive value. And, further, by certain modifications of method the same principles might be adopted in the home. To obtain pure milk for infant feeding was the desire of all, to imitate the natural supply modification in some degree was an admitted necessity, and to conduct that modification on scientific principles could only be accomplished on a quantitative basis. Professor Rotch argued that these ends could only be obtained by some such methods as he had described and concluded by stating that actual experience of large numbers of physicians in America had proved these methods to be both theoretically sound and practically successful.

Dr. JULES COMBY (Paris) discussed the question in detail and suggested some doubt of the influence of artificial processes on the nutritive value of milk.

Professor A. BAGINSKY (Berlin) had listened to Professor Rotch's description of the dairy farms and milk laboratories with much sympathy and interest, as he had for some years been organising similar methods in Germany. He approved of the principle of prescribing milk of known composition, more especially in cases of disease, but thought that the widespread use of artificially prepared milk might be responsible for results not advantageous to infant health and vitality.

Dr. H. DE ROTHSCHILD (Paris) could not admit that there was any wide field of usefulness for artificially prepared milk. Healthy children were readily nourished on pure cow's milk, and this by appropriate dilution could be adapted to most cases of disease. The essential thing was to be able to purchase pure milk, and granted this, all the necessary preparation could be conducted at home under the physician's directions. He, however, entirely sympathised with the suggestion to bring the animals yielding milk for feeding infants under medical supervision.

Dr. W. P. NORTHUP (New York) in an energetic speech offered his experience as a practical physician in support of the value of Professor Rotch's methods. All were agreed that pure milk was desirable, and this was exactly what the laboratories secured. They could order it and be sure that they would obtain what they ordered—milk chemically pure, with bacteria in limited numbers, and practically free from toxins. But it was necessary, and more especially in cases of disease, to secure food adapted to the individual infants' requirements and the opportunity of obtaining this in an exact fashion he regarded as a triumph of American medicine.

Dr. GEORGE CARPENTER (London) approved of the principle of prescribing milk of known composition and had every sympathy with efforts to obtain this. The question of

expense had to be considered and he feared this was a practical difficulty of moment. The condition of milk farms was often deplorable and was responsible for many epidemics. In discussing artificial feeding it was necessary to remember that a good wet nurse was often the best solution of the difficulty.

Dr. ERIC PRITCHARD (London) urged that the less interference that milk used for infant feeding was subjected to the better. The fact that the mother's milk varied from time to time was an argument against too severe and rigid a standard in preparing a substitute milk. He had tried the Gordon-Walker Laboratory in London but had found the expense and the delay in supplying what was ordered to be serious objections. If cream of known strength could be obtained all necessary modifications in the milk required by infants could be executed at home and without the aid of a laboratory.

Dr. JOHN THOMSON (Edinburgh) had no practical experience of the laboratory preparation of milk. In the cooler climate of Scotland such methods were perhaps less necessary.

Dr. F. M. SANDWITH (Cairo) heartily supported the plan advocated by Professor Rotch. He spoke of its value from personal experience. The method and its results could not be too highly praised.

Professor J. W. BYERS (Belfast) spoke in a similar strain. He looked upon the discussion as distinguished by a proposal of great value in the management of infants, whether healthy or sick.

Professor ROTCH, in reply, agreed with those who argued that the food of the infant needed variation, but he preferred exact to haphazard methods of securing this. As milk must be modified, why not modify it scientifically? His position was that if possible the mother should nurse her own child; that the best substitute was a healthy wet nurse; and that, this failing, milk carefully collected, of exact composition, and suited to the individual's requirements, should be prescribed. His proposal was not to substitute artificial for natural feeding, but to make the former, when it was required, an exact instead of a chance proceeding. He had visited the Gordon-Walker laboratory in London and was sure that, if supported by physicians, it would give exactly what was required. The question of expense—and this had been alluded to in somewhat exaggerated tones—would not be allowed to block a reform which concerned the well-being of infant life and growth.

DERMATOLOGY.

WEDNESDAY, JULY 30TH.

The PRESIDENT of the section (Dr. Henry A. G. Brooke) opened the meeting with a few preliminary observations. He expressed his regret that several guests of the Association who would have read papers or taken part in the discussions were prevented from being present, and he referred especially to Professor Neisser of Breslau, Dr. Brocq and Dr. Freund. He hoped that Professor T. C. Gilchrist of Baltimore would be able to attend on Thursday to give a demonstration of blastomycetes. He welcomed Professor Gilchrist for he was an alumnus of the Owens College and a former pupil of his own. The Johns Hopkins University of Baltimore was well equipped with research laboratories, so that the younger dermatologists were able with ease to undertake researches without incurring great expense. It was essential that they should have such facilities as these in this country; and though it was hopeless to expect the Government to do anything in the matter they might not unreasonably expect something from private munificence, for Liverpool has just received £10,000 for a bacteriological laboratory.

Radiography, X-Ray Treatment, High Frequency Method, and Light Treatment.

In the absence of Dr. L. FREUND (Vienna) the Secretary (Dr. G. H. LANCASHIRE) read a summary of Dr. Freund's paper. The main conclusions at which Dr. Freund had arrived were as follows. All radiant phenomena have the same physical basis and the effect of rays on the body varies like that of chemical agents, with the dosage, and may range from mere stimulation to actual destruction of tissue. In weak doses the rays favour organic processes, such as the growth of hair and the production of pigment. In stronger doses they lower vitality and produce inflammatory reaction. The clinical effects of all forms of radio-therapy are similar. The physiological effects are in direct proportion to the intensity of the raying but in inverse proportion to the wave lengths. The reaction appears after a latent period, the length of which is inversely proportional to the wave length and intensity of the raying. Those rays which have the property of exciting fluorescence are physiologically the most powerful. High-frequency currents can also be included in radio-therapy, and Dr. Freund believes that the physiological effects of this method are due solely to the spark-discharges. High-frequency currents appear to be useful in pruritus and in lupus erythematosus. X rays are of value in some cases for the removal of hair, as in ringworm, favus, sycosis, and hypertrichosis; but in lupus and in epithelioma the improvement is due to cell infiltration and proliferation, and to the influence of the x rays in promoting the formation of connective tissue and cicatrices, but they possess no bactericidal properties. In lupus vulgaris Finsen's light treatment and the x-ray method are equally good; both take about the same length of time and the cosmetic results of both are equally good. A rational method is first to x-ray large surfaces and then to treat the remaining foci with Finsen's apparatus. Hard tubes are less likely to cause dermatitis and if it does occur it subsides more readily. Ultra-violet lamps have not superseded Finsen's lamp, for the latter has a greater penetrating force.

Dr. SEQUEIRA (London) agreed with many of the opinions which had been expressed in Dr. Freund's paper. With regard to the treatment of rodent ulcer he thought that in suitable cases wide excision was the best possible treatment, but in extensive cases x-ray treatment was of great value. Recurrence was common after the use of x rays, but a further application of the treatment sufficed to remove the recurrent nodules. Of 80 cases of rodent ulcer 34 were cured and most of the remainder were still under treatment. Some of the earlier cases had remained free from recurrence for 18 months. Unfavourable conditions for x-ray treatment were involvement of cartilage, periosteum, or bone, perhaps mainly from a mechanical hindrance to healing. Sometimes the hard margin refuses to disappear; in such case a low tube may be employed to cause great reaction, or the actual cautery may be used. In cases of true epithelioma improvement may occur, but when the lymphatic glands are involved the x rays seem to be powerless. Recurrent nodules of carcinoma in the skin, as after amputation of the breast, may disappear but the glands are less easy to affect. Lupus may be cured by the x rays, but relapses occur again and again. The effective factors are the x rays themselves, for the interposition of an aluminium sheet does not interfere with the effect. After x-ray treatment disfiguring telangiectases were not infrequently left. In lupus erythematosus x-ray treatment was valueless.

Dr. S. E. DORE (London) had employed Finsen's light treatment for two years in conjunction with Mr. Malcolm Morris. He considered it important not to over-estimate the value and the possibilities of the treatment. The chief advantage is the excellence of the results, and a case may be treated indefinitely without the risk of any disfigurement. The application of pyrogallol or acid nitrate of mercury to the patches greatly increases the activity of the light. Blue rays are of more importance than the ultra violet rays.

Dr. J. M. H. MCLEOD (London) described some experiments he had been making to obtain an increase of the reaction after Finsen's light treatment. The liquids he found to be specially useful were: (*a*) a 1 per cent. solution of potassium permanganate; (*b*) a weak solution of iodine with glacial acetic acid; and (*c*) pure carbolic acid. He had tried Finsen treatment in five cases of lupus erythematosus; in two there was a definite improvement, two were unaltered, and in one case the disease was certainly made worse.

Dr. LESLIE ROBERTS (Liverpool) was of opinion from some observations he had made that the local inunction of mercury and the application of the biniodide of mercury in an etherial solution of soap was more effective than Finsen treatment.

Mr. J. F. HALL-EDWARDS (Birmingham) thought that unless a reaction was produced x rays did no good. Hard tubes are best, and much reaction is produced if the tube "sparks over." The effect is probably electrical.

Dr. P. S. ABRAHAM (London) considered x rays to be especially useful for lupus of the mucous membranes. He had cured an extensive case of lupus erythematosus by means of x rays, but some cases of this disease are distinctly made worse by x rays.

Mr. CHISHOLM WILLIAMS (London) spoke on High Frequency Currents. He felt sure that the beneficial effect

was not due to "sparking" for he had seen removal of a lupus of the face by the application of high frequency currents to the foot—i.e., a general electrification was produced. High frequency currents acted as a general tonic.

Dr. G. G. STOPFORD TAYLOR had had remarkable results after the application of x rays to cases of rodent ulcer and epithelioma. The application of pyrogallal greatly enhances the effect of Finsen treatment.

Mr. GEORGE PERNET (London) had found the Lortet lamp very tedious at University College Hospital.

Dr. NORMAN WALKER had noticed the hair grow in two cases while under the x-ray treatment. In sycosis the hairs were not merely removed but much reaction was produced, and permanent benefit followed. He had been much disappointed in the results of the light treatment in lupus, it was extremely tedious, but he had been pleased with the x rays. Iodide and carbolic acid greatly assist in the production of a reaction. Lupus erythematosus reacts severely to x rays, but in many cases improvement follows. In rodent ulcer excision is the proper treatment, but if that be impossible the x rays may be used with benefit. During the last month he had treated a case of mycosis fungoides with striking benefit, which was noticeable after three exposures to x rays; all the nodules had flattened down. He did not consider the ultra violet lamp to be any improvement.

The PRESIDENT had also seen marked improvement in a case of mycosis fungoides under the influence of x rays.

Professor R. B. WILD (Manchester) thought the x rays of much value in the treatment of lupus and remarked that it was not always the most superficial nodule which responded best to treatment. When excision is done for rodent ulcer care should be taken to remove the growth deeply as well as extensively. X rays often gave very good results in rodent ulcer, but not if cartilage is exposed on the nose or ear. X rays are not always free from danger, for he had known in one case that a panophthalmitis had supervened necessitating the removal of the eye.

Dr. LANCASHIRE (Manchester) considered it important that the dermatologist should be acquainted with the physical aspect of the question. He was inclined to think that the x-ray tube was only a means of giving a brush discharge.

The PRESIDENT mentioned a small point of some value. Small refractory nodules could be made to disappear readily by superficial scarification.

Mr. GEORGE PERNET and Dr. H. RADCLIFFE CROCKER (London) read a paper on the Use of Tuberculin T.R. in Lupus Vulgaris. There was no doubt that to a certain extent tuberculin T.R. is beneficial, especially in the ulcerating forms in young people, but it was of little value in the nodular forms in old people. The best results follow the bowel injection of the tuberculin, and other methods of treatment, such as scraping and the administration of thyroid extract, assist. On the whole tuberculin T.R. cannot be recommended, for the method is expensive, tedious, and painful.

PHARMACOLOGY.

WEDNESDAY, JULY 30TH.

The PRESIDENT (Dr. Nestor Tirard, London) delivered an interesting introductory address, in which he especially alluded to the loss suffered in the death of Dr. Daniel Leech. The time and place for this appreciation of Dr. Leech were well chosen. Dr. Tirard said that presidential addresses were distinctly to be deprecated; the time for work was limited, the amount of work was large. With kindly forethought presidents of sections were warned not to occupy more than 15 minutes if they wished to make any introductory remarks. With the programme before them he would necessarily respect the wishes of the meeting by being as brief as possible. Indeed, he would not have occupied time at the commencement of the meeting had he not felt that the section of pharmacology, meeting in Manchester, must commence with some thoughts on the late Professor, Dr. Leech, who worked so enthusiastically at the Owens College and whose work broadly conceived had had such a wide sphere of utility. He used to say with pride that the Victoria University was the first to examine in this subject and he was remembered within those walls, within this kingdom, and in all parts of the Empire as one who laboured to substitute the science of pharmacology based upon experimental investigations, for the loose therapeutic statements which had previously governed so much of the literature relating to drugs and their actions. Dr. Leech would be remembered as a practical physician who found time to initiate and direct research, even when the claims upon his time did not allow him to carry out all the details. He was one who did not shrink from personal experiments with drugs. Dr. Tirard remembered the amusement and admiration which Dr. Leech excited at a committee meeting by exhibiting his forearm marked by blisters raised from cantharidis and mylabris. His interest in the British Pharmacopœia led him to continue experiments right up to the time when printers were clamouring for the final revise, and almost before the volume was issued he was arranging fresh investigations which might lead to wholesale revisions of what had just been authoritatively established by the General Medical Council. The British Medical Association would remember also that in his desire to respect the clinical experience of the medical profession he initiated in 1894 a laborious inquiry into the frequency of employment of various drugs which were perhaps discredited by many teachers unable to explain their actions by experiment. In that inquiry every member of the Association was given an opportunity to record a vote which would influence the construction and composition of the new British Pharmacopœia. Even shortly before the end, when he was too ill to attend to other work, he still struggled to consolidate the arrangements which he had made for the future of the Pharmacopœia, arrangements calculated to secure greater uniformity, greater scientific accuracy, and more general respect. At the Owens College his memory and example were perpetuated in the professorship which bore his name. Dr. Tirard concluded by saying that having been himself intimately associated with a large part of Dr. Leech's pharmacopœial work, he could not preside in that section of pharmacology in that college without having his mind filled with thoughts of his old friend.

Sir LAUDER BRUNTON, F.R.S., opened a discussion upon

The Undesired and Unexpected Actions of Medicines, including Tolerance and Idiosyncrasy to, or Abnormal Results from, Ordinary Doses.

After a few introductory remarks, he said: Drugs may exert an unexpected action either (1) by failing to produce their usual effect; (2) by having an excessive effect; and (3) by having an unusual effect. In discussing the action of drugs we must always remember it is really the reaction between the drug and the organism which we are considering and an alteration in the effect may be either due to the drug or to the organism. It is necessary to insist upon the fact that we are apt in prescribing to be misled by names and to think that what we have administered to our patients under a certain name is always the same thing.[1] One of the saddest cases of this is that of Mr. Myer of Winschoten, Holland, who prescribed aconitine for a patient in what he thought to be a perfectly safe dose and as the patient complained of the effects he took double the dose of it himself with the result that he died from it in five hours. Nor was this fatal result much to be wondered at because pure aconitine is 300 or 400 times as strong as the old German preparation. Such extreme cases are fortunately rare, but I believe it is by no means infrequent that cascara sagrada fails to produce its effect because the bark has been secured from the wrong species of rhamnus. But even when procured from the same plant tinctures and other preparations may differ very much in strength according to the place where the plant is grown and its age, especially as to whether it is flowering or not. Moreover, many plants contain more active principles than one and sometimes these active principles are antagonistic to one another. Another source of error is that plants may have deteriorated by keeping in the druggist's shop and so lost their original virtues. In the hands of the purchaser they may have changed their strength or action. I remember reading the case of a child who was said to have died from one drop of laudanum, but this laudanum had been kept on a mantleshelf for a considerable time and the mouth of the bottle only stopped by a twisted piece of paper so that the original tincture of opium had become converted into a strong liquid extract by evaporation. Badly preserved solutions of morphine appear sometimes to undergo change with the formation of apomorphine or some other product which gives rise to vomiting. Occasionally the very purity of drugs may

[1] Kunkel: Toxikologie, p. 768.

alter their effect for the worse. It was first pointed out by Dr. Leech, whose early death everyone who knew him deeply deplores, that artificial salicylate of soda owes its inferiority to natural salicylate, not to the presence of any impurity, but really to the absence of a certain amount of salicylate of methyl which exists in the natural product. Some time ago when prescribing nitrate of potash with the view of lessening high arterial tension and arresting epistaxis I found that the patient was immediately relieved by the use of saltpetre which he got from an oil-shop. On having the prescription made up at a chemist's with pure nitrate of potash the epistaxis began again. When he told me this I suspected that the ordinary nitrate contained a small amount of nitrite and on adding about half a grain or a grain of nitrite of soda to the 15 or 20 grains of nitrate of potash that he had been taking, the epistaxis again ceased immediately. This result explained to me the observation made by a very old medical man who told me that although he belonged to a very gouty family he kept away gout by taking 20 grains of nitrate of carbonate along with bicarbonate of potash, and the nitre that he got from a gunmaker was always better than what he got from a chemist, the small amount of nitrite tending to keep down the high tension which his gouty kidneys would otherwise have produced.

[Sir Lauder Brunton here referred to the presence of impurities in bismuth, and continued :—]

Alterations in the effect of drugs may depend very much upon changes in them after they have been actually swallowed. ..... In persons who live upon a vegetable diet and are accustomed to take but little salt, calomel appears only to have a slight action, but in people who take a lot of salt or are accustomed to live upon salt provisions, a larger quantity of the calomel taken is converted into corrosive sublimate, and thus the medicine may have an unexpectedly violent action. An unusual amount of hydrochloric acid in the stomach may produce a like result, and this is a point to be borne in mind because nitrohydrochloric acid and calomel are both favourite remedies in conditions of biliousness.

[After mentioning the effect of alkalies on antimony and upon resinous drugs Sir Lauder Brunton continued :—]

Perhaps I cannot do better in introducing this subject than take a typical drug like arsenic and consider its different actions and afterwards compare them with those produced by other drugs. A drug may act on the body at the point of application, whether it be skin, subcutaneous tissue, raw wound, or mucous membrane. After its absorption it may act upon any organ of the body to which it is carried by the blood. It may act during its elimination upon the same parts on which it usually acts during its absorption—namely, the skin and mucous membranes, as well as by the one great eliminating organ—namely, the kidneys. The action of any drug whilst circulating in the body depends to a great extent on the amount present in the blood, and this amount is determined by the difference between the quantity absorbed and the quantity excreted in a given time. If absorption be rapid and excretion slow much of the product will circulate, whereas if absorption be slow and excretion rapid very little will be present in the blood at any one time. A drug may act at one time more violently upon the point of application, at another on the organ to which it is carried by the blood, and yet another on the organs of elimination. A large dose of arsenic taken by the stomach will irritate that organ and may be ejected by vomiting without being absorbed to any extent, thus leaving untouched the organs generally as well as the channels of elimination. John Hunter and Sir Benjamin Brodie showed that when arsenic was applied to a wound it was absorbed with rapidity and was eliminated very rapidly by the mucous membrane of the stomach, so much so that it produced inflammation of the stomach before any appearance of inflammation showed itself in the wound. But arsenic has long been used as a secret remedy in cases of cancer, and often it causes the part to slough away without having any general action, although every now and again cases of poisoning have occurred. The chief rule for avoiding any poisonous action in such cases is said to be by using the arsenic paste very strong and over a small area. If used in too dilute a form it is absorbed, but if used very strong it forms a local slough and is not absorbed at all. In the poisoning by beer in Manchester so much was diluted that it appeared to have little local action when drunk, but after absorption it was carried to the mucous membrane of the stomach and intestines and during its elimination by these organs gave rise to sickness and diarrhœa. During its elimination also by the skin it produced many cutaneous eruptions and while circulating in the blood gave rise to neuritis, anæmia, fatty degeneration of the liver muscles and heart with muscular weakness, loss of sensibility, great pain, and a tendency to syncope. In the case of poisoning by arsenic in beer the drug was taken in small quantity at a time and in a state of dilution that prevented its local action on the intestinal canal, but its ingestion was so continuous that the eliminating organs could not get rid of it as quickly as it was absorbed and so it accumulated in the organism. Exactly the reverse occurs in the arsenic-eaters of Styria. These people take a somewhat large dose at once, but they take it in a dry form so that it shall not be absorbed too quickly, and the eliminating organs pass it out of the body with sufficient rapidity to prevent poisoning. It is highly probable that a small quantity may circulate in the blood for a long time before the least traces of it are eliminated. Styrian arsenic-eaters take their doses at comparatively long intervals, generally a week or a fortnight, but very minute doses regularly taken are said to have the same effect in producing plumpness and strength, and in some girls' boarding schools in Switzerland arsenic is said to be regularly put in the food for the purpose of improving the girls' appearance.

[Concerning tolerance Sir Lauder Brunton said :—]

If we consider what the condition of a cell will be when a new substance is brought by the blood, we may form a hypothesis regarding the tolerance which even if imperfect may help us to understand the nature of the phenomenon. New substances will come first of all in contact with the outer part of the cell, so that the relationship of the exterior to the interior will become altered, gradually the new substance will penetrate through the cell, and unless fresh quantities of the new substance be carried to the blood the cell may go on almost unchanged in its functional activity. Even if new quantities are supplied to the exterior of the cell a large proportion of substances will be required to produce the same relative change than at first and so it will gradually lose its primitive effect, larger and larger doses being constantly required until at last they seem to have almost no action. This hypothesis will help us to understand the gradual loss of effect both of purgatives and narcotics, but we must remember that complete imbibition of a cell with a new substance may alter its whole activity, although the relationships of the different parts of the cell to one another are undisturbed. In this way the arsenic may tend to cause fatty degeneration and atrophy of various cells, both muscular and nervous, and to produce a series of changes which, though very slow, may surely lead to a fatal result. In the case of arsenic the cumulative action which was so well observed in the Manchester epidemic was due to the constant ingestion of larger quantities than the eliminating organs could remove, and the same is the case with mercury and lead, and the sudden appearance of mercurial or lead-poisoning is only caused by the accumulated amount becoming at length sufficient to produce it. In the same way the curious greenish purple of the skin produced by the long-continued use of nitrate of silver occurs after long accumulation, and in the case of this metal it is stated that this undesirable result may follow the use of a small amount of silver if it has been freely administered years before, little or no elimination having occurred in the interval. In the case of two drugs especially —digitalis and strychnine—sudden development of poisonous symptoms has been specially noted. In some cases it is possible that this may have been due to a cumulation of the active principle in the intestinal canal with sudden solution and absorption in consequence of some article of food or drink having been taken in the same way as I have already spoken in regard to quinine, but generally, I believe, it is due to these drugs causing a lessened flow of urine and thus arresting their own excretion.

Sir Lauder Brunton then passed to consider the aromatic series, nearly every member of which "has a tendency, more or less, to produce cutaneous eruptions with feebleness of the circulation, with sometimes a tendency to collapse and with a tendency also to anæmia when administered for a long time."

[Examples were then given of drugs belonging to this series and other drugs which produce cutaneous eruption and heart failure. With regard to salicylates Sir Lauder Brunton continued :—]

For some time past I have used a method of treatment in

appendicitis which has given very satisfactory results. It consists of administering salicylate of soda and belladonna in very full doses. I usually prescribe 15 or 20 grains of salicylate every two hours and 10 or 15 minims of the new tincture of belladonna. The drugs may either be given at the same time or in alternate hours, but they are not mixed because each drug should be taken until the first symptoms of its physiological action appear, singing in the ears in the case of salicylate, and dryness of the mouth, dilatation of the pupil, and quickness of the pulse in the case of belladonna. When these symptoms appear the drug is either to be stopped entirely or greatly diminished in quantity. In two cases the patient has become delirious before any dryness of the mouth or other symptom of physiological action of the belladonna appeared, but in both cases I found that a tendency to insanity was present in the family. Both patients had been perfectly sane all their lives, but the belladonna appeared to develop the latent tendency for the time being.

[Sir Lauder Brunton concluded his interesting address by some remarks on narcotics.]

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION.

WEDNESDAY, JULY 30TH.

The PRESIDENT of the Section (Dr. B. Arthur Whitelegge) opened the proceedings by delivering a short address in which he referred to the fact that they met on the centenary of the first Factory Act and in the first year of an important consolidating and extending Factory Act. In the course of his remarks he pointed out that factories and workshops had been built and the plans had been passed by the responsible authorities without due consideration of ventilation or of sanitary accommodation or means of escape in case of fire; the remedy later on was usually more costly and less effective than proper provision at first would have been. So, too, with machinery, which was too often ordered, made, and taken into use without consideration of the dangerous points to be guarded or avoided, however obvious they might be; and that occurred in the case of machinery which, when made up for export to other countries, was sent out guarded as it should be. So, too, with the fans which were intended to carry away dust or fumes; the exhaust was often taken not from the point which common-sense would dictate—namely, the place of origin of the mischief—but from some remote part, so that the impurities had to be diffused through the air to be breathed before they could escape.

Dr. S. KING ALCOCK was then called upon to open a discussion on

The Value of Systematic Medical Examination of Workers in Dangerous Trades.

The point he wished to emphasise was that the nature rather than the severity of the symptoms should be their guide in classifying any case of trade poisoning; a slight attack of optic neuritis was a more impressive danger signal than was the severest case of uncomplicated colic. The physical signs and symptoms present in any case of poisoning might of course have their origin in other diseases the possible existence of which should be investigated if present. Although each symptom considered separately might have a doubtful significance the concurrence of two or more led well-nigh to certainty when each had some separate pathognomonic importance. It was the conjunction of colic with wrist-drop, of optic neuritis with a blue line, of anæmia with paresis, that enabled them to diagnose lead poisoning, whereas the unassociated presence of any one of these symptoms would always leave room for doubt.

A paper was then communicated from Mr. B. M. BOND (Poole) who considered that the chief value of the examination in dangerous trades lay in the power possessed by the surgeon to suspend or to discharge workers injuriously affected by their work.

Mr. W. H. VICKERY (Newcastle-upon-Tyne) sent a paper in which he put forward the view that every worker in lead, no matter how careful, absorbed a certain amount. He urged that it was the duty of the inspecting surgeon to try to determine at what point absorption passed the boundary line of safety, so that he might suspend the worker and prevent the onset of an attack of lead poisoning.

Dr. W. A. ATKINSON thought that the periodical examination of lead workers was undoubtedly a safeguard against plumbism, because there was an opportunity of detecting some of the earlier symptoms and such cases if taken away from the influence of lead and properly treated seldom developed the more marked symptoms of lead poisoning.

After Dr. J. HOLMES and Dr. T. F. YOUNG had spoken,

Dr. T. OLIVER (Newcastle-upon-Tyne) contributed a paper on the subject under discussion. He said that the utility of the examination was based upon experience. Nearly all civilised countries had legislated to a greater or less extent for workers in white lead, mercury, and phosphorus. By thus acting the various Governments had recognised that ill health followed unregulated employment in trades, while the compulsory medical examination required by many in addition showed that it was recognised that by timely detection much of the evil consequences of industrial poisoning could be prevented.

An interesting and important paper on the Injurious Influence of Fast Aniline Black Dyeing Processes was then read by Mr. W. F. Dearden (Manchester).

THE ANNUAL MUSEUM.

There was but little attempt to make the exhibition this year as socially attractive as was the preceding one at Cheltenham; indeed, any such attempt would probably have been attended with limited success, since a strictly rectangular hall was the only available building for the purpose, whereas the Winter Garden in Cheltenham afforded every opportunity of making the annnal museum attractive and artistic. The Winter Garden proved a pleasant lounge and retreat and was, besides, approached by beautifully kept lawns. The Drill Hall in Burlington-street, Manchester, is situated in a somewhat unpleasant neighbourhood not very far from the Owens College and both places could hardly be said to be within easy distance of the leading hotel quarters. The opening ceremony on Monday was featureless. Dr. Woodcock briefly introduced the Lord Mayor of Manchester, who declared in equally brief terms the exhibition to be open. A reception of visitors then took place and the attendance was fairly good. Despite the heavy showers on Tuesday there was a satisfactory influx of medical men, and the interest taken in the exhibits was evidently brisk.

Electrical appliances and photo-therapeutic apparatus perhaps attracted most interest, although considerable attention was given to the excellent surgical and sanitary appliances displayed, as well as to new forms of drugs, new pharmaceutical preparations, and so on. There was a small motor-car and carriage section. As might have been anticipated many well-known local firms were represented. It may be remarked that there was a decidedly diminished tendency to worry the visitor to give his attention to any particular exhibit, and there was an absence of that kind of objectionable solicitation which borders so closely upon mere touting. It is evidently realised that medical men know best what interests them most, and it would add considerably to their comfort if the unasked-for and generally exaggerated statements made by the exhibitors could be suppressed altogether. Of course, the exhibitor generally possesses some special knowledge of his exhibits, but there is no necessity for him to give the medical visitor any information unless requested to do so. To be persistently hailed on all sides with "Have you seen this, Doctor?" "May I draw your attention to that, Doctor?" "Will you put your name in my book?" and so on, is annoying and calculated to defeat the real and excellent aim of the exhibition—i.e., to introduce to the notice of the practitioner any pharmacological advances or other improvements.

Adhering to our practice in previous years, we propose to review what we consider to be the more important exhibits, which for convenience may be classified as follows: I. Drugs; II. Foods and Food Products; III. Sanitary Appliances, Disinfectants, &c.; IV. Surgical Instruments and Appliances; V. Mineral Waters, Beverages, &c.; VI. Publications; and VII. Miscellaneous.

I.—DRUGS.

In touch with so many busy industrial centres it might have been expected that Manchester would afford abundant opportunity for exhibiting a great variety of drugs. And such was the case. The midland towns were well represented. With regard to drugs and their preparations there was no striking advance to report, and certainly no particularly important

departure relating to the forms of administration appears to have taken place. Attention is of course still being directed to the improvement of pills, tablets, cachets, bases, excipients, and so forth, an attention which has contributed so much towards pharmaceutical elegance and to bringing dosage to a remarkable pitch of accuracy. Amongst the local firms represented were Messrs. James Woolley, Sons, and Co., Limited, who offered an admirable selection of new therapeutic agents for inspection. Amongst these were argonin, duotal, purgatin, urosin, and other drugs which have been described already in our analytical columns. Mention should also be made of akolethe, a solution of the sedative principles of opium. Again, cancellous tissue, described as decalcified bone, has been suggested as an absorbent dressing for use in the treatment of granulating wounds, fistulas, and ulcers. Amongst the elixirs shown was elixir terpini co., each fluid drachm containing one grain of terpin hydrate and $\frac{1}{12}$th grain of heroin hydrochloride; it is useful in the irritable conditions of the respiratory tract. Lastly, a special preparation is unguentum resorsol, an ointment prepared with resorcin, tar, zinc, and bismuth for use in inflammatory conditions of the skin. Messrs. Charles Midgley, Limited, of 23, St. Ann's-square, Manchester, presented to view a number of interesting preparations, the feature of the exhibit, however, being an excellent series of medicated soaps. Amongst the soaps prepared both with an alkaline and a superfatted base are ichthyol, sulphur, and white birch tar soaps. The superfatted soaps include also nicotine soap and resorcin soap and others. The same firm prepare a series of medicated pastilles and special liquores. Amongst the former may be mentioned eucalyptus and codein pastilles, and the dionine lozenge, and amongst the liquores may be noted those containing papain, pepsin, santal, and copaiba. These liquors are designed for the use of practitioners who do their own dispensing. Mr. J. C. Arnfield of 7 and 9, Lower Hillgate, Stockport, exhibited a number of useful preparations, amongst the most novel of which were Unna's pastes and hæmorrhoidal jellies in collapsible tubes and eye ointments contained in gelatin capsules. By merely piercing the capsule the desired quantity of ointment may be easily obtained. "Colloiderm" may be mentioned as an excellent aseptic collodion, evaporating rapidly. Messrs. R. Sumner and Co. of 50A, Lord-street, Liverpool, exhibited a number of preparations illustrating chiefly improved methods of administration such as gelatin perles and capsules and gelatin-coated pills free from pin holes. Antisepticine is also worthy of mention, being a non-poisonous antiseptic containing the active agents thymol, eucalyptol, peppermint, gaultheria, and benzoic or boric acids. Antisepticine is suggested for internal use in flatulence as an anti-fermentative and in dysentery and diarrhœa. An emulsified chloroform is also prepared by this firm; it is convenient in enabling the extemporaneous preparation of acqua chloroformi B.P. The Bayer Co., Limited, of 20, Booth-street, Manchester, exhibited their well-known preparations. Amongst these are "agurin," a theo-bromine compound possessing diuretic properties; the silver proteid protargol; aspirin, a substitute for the salicylates; and hedonal, a hypnotic of the urethane group. A well-arranged stall replete with a great variety of preparations was that of Messrs. Wyleys, Limited, of Coventry. The exhibits included ichthyol pessaries and suppositories, throat and other pastilles, and standardised tinctures and medicines in capsules, coated pills, cachets, and pellets. Messrs. Duncan, Flockhart and Co. of 104, South Canongate, Edinburgh, exhibited the well-known preparations connected with their name, the chief of which is, of course, specially pure chloroform, but other preparations were included, such as gelatin capsules, tablets, and infusions. Coming to London firms, Mr. W. Martindale of 10, New Cavendish-street, London, W., exhibited a number of preparations well worth attention. Amongst these were "sterules," or sterilised eye-drops, contained in capillary tubes (the method is convenient and effective); compressed moss, a good absorbent dressing; sodio magnesian aperient with caffeine, and many other useful preparations. The portable urine test and bacteriological test apparatus are well known on account of their special usefulness. We have already described in our analytical columns Dolles's aromatic iron milk, for which the British Iron Milk Syndicate, Limited, of 115 and 116, Strand, London, W.C., are the agents. It is an ingenious preparation of pyrophosphate of iron suspended in water with the aid of glycerine. The iron salt is unchanged until it reaches the beginning of the intestinal tract where it is absorbed. It is without the usually unpleasant effects of iron salts and is not astringent, while it is agreeable to take. Messrs. C. J. Hewlett and Son, of 35, Charlotte-street, London, E.C., exhibited a number of improved pharmaceutical preparations, including several valuable misturæ, besides many comparatively new remedies, including urea and the cacodylates. Amongst the antiseptic preparations were a cream, a jelly, and a liquid ether soap. An interesting variety of preparations, medical and antiseptic, was presented to view on the stall of Messrs. Corbyn, Stacey, and Co., Limited, of 300, High Holborn, London. Antiseptoform is a wax-like solid which gives off formaldehyde gradually at ordinary temperatures, while on heating it generates the same gas in large quantities. It is therefore useful for aerial disinfection. The exhibit included a number of elegant extracts, liquors, and syrups. Mr. Frank A. Rogers of 327, Oxford-street, London, W., exhibited several forms of apparatus for producing sprays for medical application well adapted for laryngeal work, post-nasal work, and in the treatment by spray of other cavities. An interesting series of medicated ointments in the form of cylindrical sticks known as hypodermules was also worthy of attention. We have already noticed some of the more important preparations of the Anglo-American and Continental Pharmaceutical Company of 39A, Tamworth-road, Croydon. These include Huxley's compound syrup of the acid glycero-phosphates and an antiseptic plasma dressing and dusting powder. The small spherical capsules known as kügloids may be mentioned; they contain glycero-phosphate of quinine, benzoate of creasote, and eucalypto, the therapeutic indications being obvious. Messrs. Burgoyne, Burbidges, and Co., of 12 and 16, Coleman-street, London, E.C., exhibited a number of new silver preparations useful in the antiseptic treatment of wounds. Amongst them were actol credé (lactate of silver), antiseptic credé (citrate of silver), collargolum (colloidal silver credé), and unguentum credé (colloidal silver ointment). "Acoin," the comparatively new local anæsthetic for surgical, ophthalmological, and dental operations, has already been described in our analytical columns. An interesting collection of synthetics generally of a beautiful crystalline character, was tastefully arranged on the stall of Messrs. Zimmer and Co., of 33, Lime-street, London, E.C. These included euquinine, so-called tasteless quinine, said to possess the same antipyretic action as quinine, the dose being the same; urosine; and dymal, the basis of an antiseptic dressing. The Angier Chemical Company, of 32, Snow-hill, London, E.C., exhibited preparations of their emulsion of petroleum with hypophosphites. It is described as acting as a demulcent and sedative throughout the intestinal tract. Maltine serves as a substitute for ordinary syrup for the exhibition of iron and the phosphates with the added advantage that it possesses diastasic properties. The Maltine Manufacturing Co., of 24 and 25, Hart-street, Bloomsbury, exhibited a number of preparations of the nature indicated; compounds were also shown of maltine with cod-liver oil, cascara, &c. Messrs. Parke, Davis, and Co., of 111, Queen Victoria-street, London, E.C., exhibited a very large choice of preparations, including special drugs, serums and toxins, antiseptics, and chocolate-coated tablets. Special emphasis was laid upon the value of adrenalin, the active principle of the suprarenal gland, as an astringent hæmostatic and vasomotor stimulant. The exhibit included the nuclein compounds of mercury, silver, iron, and copper. The Charles H. Phillips Chemical Co., of 14, Henrietta-street, Covent-garden, London, W.C., exhibited an elegant preparation of magnesia; it consists of a uniform emulsion of the pure hydrated oxide of magnesium and contains 24 grains in each fluid ounce. It has the advantage of acting as an antacid in dyspepsia without the production of carbonic acid gas. It serves as an excellent mouthwash and is described as of peculiar value in the colic of infants. Messrs. Oppenheimer, Son, and Co., of 179, Queen Victoria-street, E.C., had a well-arranged stall on which their palatinoids and bi-palatinoids figured for the most part. The palatinoids of tinctures and the bi-palatinoids of compound syrups are worthy of special mention. An excellent variety of medicine cases suitable for many purposes was also shown. These included emergency cases, pocket medicine cases, and a combined emergency and midwifery case. The Peptenzyme Co., of 80, Gloucester-road, South

Kensington, London, S.W., besides exhibiting peptenzyme tablets and elixir, preparations which we have had occasion to report upon in our columns, showed also a preparation called "trophonine," which is described as a palatable and highly-nutritious liquid food, being derived from vegetable and animal proteids associated with the digestive enzymes. Another preparation worthy of note on this stall was "zymocide," a solution of several aromatic antiseptics. Being non-poisonous it is suitable for internal use as an anti-fermentative and in dysentery and diarrhœa. The chief subject of exhibit on the stall of Mr. B. Kühn of 36, St. Mary-at-Hill, London, was chinosol, which has the advantage of possessing not only strong antiseptic power, but a deodorising power also. It occurs in the form of pure powder for medical use and in a crude form for common disinfectant purposes. Tablets are prepared containing a definite amount of chinosol which enables the quick preparation of a standard solution. The exhibit included a group of pharmaceutical preparations manufactured by Messrs. Knoll and Co. Of these we have already mentioned the interesting synthetic and purgative purgatin, in powder and tablets, and triferrin, a paranucleinate of iron. This firm also showed graduated glass-tubes containing ethyl chloride for inhalation in general anæsthesia. Messrs. Arthur & Co., of 69, Berners-street, London, W., made a special feature of their gold preparations known as bromaurum and hydraurum, said to be useful in the treatment of neurasthenia, epilepsy, and chronic rheumatism. Samples of uric acid illustrating abnormal pigmentation caused by nervous degeneration and the action of bromaurum in obviating this pigmentation were exhibited. The exhibit included antiseptic handkerchiefs and aquaform, a local application for the relief of perspiring hands. Of comparatively recent introduction is the interesting substance ovo-lecithin, consisting of the three lecithins of stearic, oleic, and palmitic acids contained in the yelk of the egg. Mr. Billon, of 16, Water-lane, Great Tower-street, London, E.C., prepares pills of ovo-lecithin and a special confection for children, and fluid ovo-lecithin for intra-muscular injection.

ASYLUM REPORTS.

East Sussex County Asylum (Annual Report for 1901).—The average number of patients resident during the year was 956, comprising 406 males and 550 females. The admissions during the year amounted to 222—viz., 120 males and 122 females. Of these 181 were first admissions. Dr. E. B. C. Walker, the medical superintendent, states in his report that among the admissions there were 75 males and 70 females whose prospect of recovery was bad or hopeless; 35 males and 38 females were found to be actively suicidal on admission. The number of patients discharged as recovered during the year amounted to 74—viz., 34 males and 40 females, or 7·7 per cent. of the average number resident. The deaths during the year amounted to 90—viz., 45 males and 45 females, or 9·4 per cent., as calculated on the same basis. Of the deaths three were due to pulmonary, or other forms of, tuberculosis, six to cerebral atrophy, six to cardiac disease, seven to nephritis, nine each to epilepsy and senile decay, 14 to pneumonia, 18 to general paralysis of the insane, and the rest to other causes. One female patient was admitted while pregnant and was confined of a child four months afterwards. She was subsequently discharged as recovered. Four patients escaped from the asylum but three of them were brought back. During the months of April, May, June, and August one female and 14 male patients were attacked with measles, the disease being introduced from the neighbourhood, where it was very prevalent. Early in the year the accommodation for male patients was found to be inadequate. To make provision for them a contract was entered into with the Nottingham City Asylum for the reception of 30 males. In April beer as part of the ordinary diet of patients was discontinued; it caused but slight discontent on the part of a few patients, and the addition to the dietary of more cheese, cake, and jam was found to be much appreciated. The Commissioners in Lunacy state in their report that the asylum as a whole was in good order, that 58 per cent. of the males and 68 per cent. of the females were usefully employed, and that the medical case-books were well kept. The committee of management states in its report that during the year the attendants' and nurses' leave has been increased and the diet scale improved. No cows are now purchased for the farm without undergoing the tuberculin test.

Obituary.

JOHN PERMEWAN, L.R.C.P. EDIN.

MR. JOHN PERMEWAN died at his residence, Redruth, Cornwall, on July 26th in his seventy-first year. The deceased, who received his medical education at St. Bartholomew's Hospital, had resided for many years in Redruth where he had with his eldest son, Dr. A. E. Permewan, J.P., an extensive practice. Mr. Permewan was attending to his professional duties to within a fortnight of his death which was caused by pneumonia following a chill. The deceased will be greatly missed in Redruth where he took a great interest in all local matters and was one of the originators of the West Cornwall Women's Hospital. Mr. Permewan also erected at his own expense seats for the convenience of invalids in various directions in the outskirts of Redruth. The deceased leaves two sons, both of whom are members of the medical profession, and two daughters. His wife, who was also greatly esteemed at Redruth, died about three years ago.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Karl Marinus Reiss, Professor of Pathology in the University of Copenhagen, at the age of 73 years. The scientific papers published by him chiefly related to diseases of the respiratory organs.—Dr. Matias Nieto of Serrano, Marquis de Guadalerzas, permanent President of the Royal Academy of Medicine of Madrid.

Medical News.

VICTORIA UNIVERSITY.—In the Faculty of Medicine the following candidates have passed in the subjects indicated:—

FINAL EXAMINATION.

Part I.—R. A. H. Atkinson, A. N. Benson, F. L. Boag and Alexander Boothroyd, Owens; Neville Bradley, University; C. H. Bromhall, Owens; Stanley Brown, University; Thomas Brown, Yorkshire; Laurence Clay and Thomas Coogan, Owens; Robert Cook, University; E. H. Cox, Owens; A. M. Deane, Yorkshire; J. L. Falconer, H. E. Fox, J. P. Garlick, and F. W. Gatenby, Owens; E. A. Gibson, University; H. D. Haworth, Owens; F. W. Hayes, Yorkshire; Rowland Heathcote, Owens; Arthur Hendry, University; E. W. Henstock and Hubert Hodge, Owens; C. A. Hughes, A. D. Hunt, and H. R. Hurter, University; Hamilton Irving and J. M. H. Jones, Owens; G. H. Joseph, University; W. H. Judson and T. W. Lonsdale, Owens; H. J. Macvean, Yorkshire; J. de V. Mather, Owens; C. T. Matthews, Yorkshire; H. B. Moore, Owens; D. J. Mulholland, University; C. S. O'Neill, Owens; M. B. Potts, Yorkshire; Frank Robinson, Harold Simms, J. M. Skinner, R. T. Slinger, and J. C. Smyth, Owens; Bertram Suggit, Yorkshire; R. H. Swindells and F. P. S. Thomas, Owens; H. G. Thompson and I. C. Thorburn, University; M. G. L. Walker, Yorkshire; S. H. West, Owens; Henry Woods, University; and William Wright, Owens.

Part II.—†Walter Briggs and †G. H. Brown, Owens; Alexander Burkhard, Yorkshire; †A. G. Christian, Tom Eastham, A. H. Gregson, †Alexander Hodgkinson, W. S. Holmes, C. H. Hopwood, and †J. R. Hutchinson, Owens; R. G. M. Ladell, Yorkshire; †A. W. Latham and †G. H. Leigh, Owens; J. A. Longley, Sydney Platts, and A. H. Radcliffe, Yorkshire; Arthur Richmond, F. W. Schofield, and S. W. Swindells, Owens; Ernest Tinker, Yorkshire; A. E. Townley and F. E. Tylecote, Owens; G. F. C. Walker, University; and *W. S. Wrigley, Owens.

* Awarded first-class honours. † Awarded second-class honours.

SECOND EXAMINATION.

A. Anatomy and Physiology.—B. M. Bennett, Owens; J. L. Browne, University; Francisco da Cunha, H. S. Dixon, and Walter Fuller, Owens; A. E. Grisewood, University; W. H. Hey and R. W. Higson, Owens; W. D. Higson and G. J. Keane, University; F. E. Kendall, Yorkshire; Laurence Kilroe, Owens; Walter Longley, Yorkshire; James McClellan and R. H. Mole, University; G. C. Mort, Owens; R. B. Radcliffe, Yorkshire; F. G. Ralphs, Owens; J. S. Rowlands, University; C. A. Smith, Yorkshire; and Harold Spurway and T. W. Walker, Owens.

B. Materia Medica and Pharmacy.—Herbert Ainscow, B. M. Bennett, Frank Boothroyd, T. M. Brose, Charles Brown, D. E. Cure, and C. M. Craig, Owens; John Dixon, R. G. Dixon, and F. G. Dobson,

Yorkshire; W. R. Douglas, Owens; Harold Fearnley, Yorkshire; Joseph Fletcher, Owens; E. R. Flint, Yorkshire; H. M. Fort, C. L. Franklin, and William George, Owens; B. T. J. Glover, University; S. R. Gloyne, Alfred Gough, and D. W. Hardy, Yorkshire; P. J. Harris-Jones, Owens; W. B. Hill, Yorkshire; A. W. Houghton and A. W. Howlett, Owens; J. J. Hummel and G. H. Hustler, Yorkshire; T. E. Jones, University; A. J. Landman, Yorkshire; T. W. P. Leighton, J. B. Macalpine, J. T. R. MacGill, and J. D. Marshall, Owens; Herbert North, Yorkshire; H. B. Pare and W. C. Parkes, Owens; T. W. Parry, University; P. L. Pollard and Joseph Rickards, Owens; C. H. Smith, University; W. W. Stacey, Owens; F. H. Storey, University; Henry Thorp, Owens; A. L. Walker, Frederick Whalley, and Thomas Whitehead, Yorkshire; G. W. Williams, Courteney Yorke, and Warrington Yorke, University; and J. S. Young, Owens.

The Diploma in Public Health has been awarded as follows:—

W. J. Butcher and Walter Latham.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred on the undermentioned:—

Degree of Doctor of Science (D.Sc.).—Alexander Findlay, M.A., B.Sc., Aberdeen.

Degree of Bachelor of Science (B.Sc.).—George Rattray, M.A., Aberdeen (with Special Distinction in Botany and Geology).

Degree of Doctor of Medicine (M.D.).—Norman Wm. Anderson, M.B., C.M., Strathmiglo, Fife; *James Fletcher, M.B., C.M., Ham Green Hospital, Bristol (under New Regulations); Albert Henderson, M.A., M.B., C.M., Aberdeen; Alfred Hogg, M.A., M.B., C.M., Old Trafford, Manchester; Douglas Whimster Keiller Moody, M.B., C.M., Montrose; *Alexander Robb, M.A., M.B., C.M., Paisley; Percy Austin Roden, M.B., C.M., Droitwich; Robert Maxwell Trotter, M.B., C.M., Newcastle-on-Tyne; and *George Alex. Troup, M.B., C.M., Stratford, London.

* Theses awarded commendation.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) (New Ordinances).—†Charles Todd Andrew, B.Sc., Hamilton; William Leslie Beaton, Perth; James Davidson, Cruden, by Ellon; William Fraser, B.Sc., Forres; William Sim Garden, Portsoy; George Eric Hamilton, Aberdeen; Thomas Barrett Heggs, West Bromwich, Staffordshire; Donald John Gair Johnston, Culduthel Mains, Inverness; †John Charles Grant Ledingham, M.A., B.Sc., Boyndie, Banff; William Louis Anderson Leslie, Stonehaven; Alexander James Macdiarmid, Aberdeen; George Shiach McKay, M.A., Dufftown; Malcolm Macleod, Aberdeen; Thomas Basil Mitchell, Hillside, Montrose; Alexander Lumsden Ritchie, Schoolhill, Turriff; George Officer Robertson, M.A., Ellon; John Rose, M.A., Leanach, Inverness; Francis William Symair, New Deer; †John Hector Stephen, B.Sc., Aberdeen; Henry Watson, Norwich; and Andrew Stewart Wilson, Aberdeen.

† With second-class honours.

Diploma in Public Health.—Henry Fraser, M.D. Aberd., Aberdeen (with credit); and Wilfred Ernest Lawson, M.B., Ch.B. Aberd., Aberdeen.

The John Murray medal and scholarship, awarded to the most distinguished graduate (M.B.) of 1902, was gained by Lewis Davie Cruickshank, M.B., Ch.B., Tarves, Aberdeenshire; and the Alexander Anderson Scholarship was awarded to John Charles Grant Ledingham, M.A., B.Sc., Boyndie, Banff.

The following candidates have been successful in the examinations indicated:—

Portion of First Professional Examination.—William Angus, John W. Archibald, James W. Barnett, Agnes V. Baxter, Henry Begg, William Begg, Francis J. Browne, James A. M. Clark, James M'K. Clark, James A. Davidson, Walter J. Dilling, James Donaldson, Norman A. Duncan, Robert L. P. Duncan, Robert J. Duthie, Williamina S. E. Fitzpatrick, Robert P. Garrow, Stephen Goodbrand, Leighton H. Hay, James Leask, Dalziel B. M'Gregor, James R. Mackenzie, Douglas John Marr, James M. Mathieson, Harry Middleton, John R. Moir, Algernon E. C. Myers, Patrick Nicol, Alexander Noble, Alfred J. Pirie, Albert N. E. Rodgers, Robert W. A. Salmond, Arthur Shepherd, Alexander R. Skinner, Frank P. Sturm, James E. G. Thomson, William A. Watson, James J. P. Wilson, and John M'J. Wilson.

Completed First Professional Examination.—John S. Beedie, Robert Chalmers, ‡Theodore Chalmers, ‡James G. Copland, Alex. M'R. Donaldson, Mary W. Durno, William M. Ferguson, George F. Forgie, John F. Gill, James F. Grant, ‡R. M. Gunn, Alexander J. Guthrie, George T. J. Hendry, Adam Hutton, Adam Johnston, William B. Keith, Arthur Kellas, James S. M'Connachie, Joseph M. Macdonald, John G. M'Gregor, ‡Eneas K. Mackenzie, ‡William A. H. M'Kerrow, Neil P. Macphail, Sophia Jean Meiklejohn, Mearns A. Milne, James E. Mitchell, Stanley W. Munro, John Murray, Sebastian V. van Niekark, David E. Rae, J. Raffan, Patrick M'Rennie, John Sangster, W. F. G. Scott, John R. Stewart, Forbes J. Stuart, Arthur G. Troup, James C. Troup, Alexander F. Wallace, and Cristina Wilson.

Completed Second Professional Examination.—George Adam, Benjamin J. Alcock, ‡Catherine E. Anderson, John Anderson, §James Clark, William Dalgleish, Francis W. Davidson, Alexander Duguid, Walter A. Elwood, Alexander Hendry, Thomas G. Innes, Herbert M. Jamieson, John Jenkins, Helen M'Glashan, Donald M'Kay, Charles G. Macmahon, William M. M'Pharson, Alexander M'Robbie, James Reid, Michael B. H. Ritchie, James Robertson, Alexander N. Ross, §Bertie R. G. Russell, Herbert W. B. Buxton, §Charlotte A. T. Schultze, Fife Slater, ‡Cyril H. Smith, James H. Thomson, Douglas A. Wood, William Wood, and Robert J. B. Wright. *Old Regulations:* Alexander S. Cardno.

Completed Third Professional Examination.—Benjamin J. Alcock, William Anderson (Kintore), §Margaret Duncan, §Archer Irvine Fortescue, Charles W. T. Gray, ‡Bella Gunn, James W. Miller, ‡W. R. Pirie, G. B. Sleigh, and Douglas A. Wood.

‡ Passed with distinction. § Passed with much distinction.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS.—The following candidates have passed the Public Health examination as undernoted:—

FINAL EXAMINATION.

Passed in all subjects.—T. A. Dillon, Miss H. A. Hall, Miss M. E. M. Logan, J. J. Moore, W. B. A. Moore, J. Murphy, J. Murray, M. A. A. O'Brien, J. O'Doherty, C. E. O'Keeffe, G. C. Robinson, and F. C. Yorke.

Completed the examination.—H. M. Clarke, T. P. Cormack, James Dwyer, R. W. Richards, G. J. Sexton, and J. H. White.

Public Health.—J. D. Wynne, M.B. (honours); R. D. Booth, M.B.; C. D. H. Rygate, M.R.C.S.; and Hugh Woods, M.D.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bahia:* Dr. Anisio Circundes de Carvalho has been appointed to the chair of Clinical Medicine in succession to Dr. Monteiro.—*Barcelona:* Dr. Antonio Gonzales Prats has been appointed to the chair of Medical Pathology.—*Gratz:* Dr. Erwin Payer has been appointed Extraordinary Professor of Surgery.—*Kiel:* Dr. Reinhold Rugo has been recognised as *privat-docent* of the History and Geography of Medicine.—*Lausanne:* Dr. Kasimir Strayzowski has been appointed Extraordinary Professor of Physiological Chemistry.—*Paris:* Dr. Rina Montio, a lady who was awarded the great gold medal by the University, has recently been recognised as *privat-docent*.—*Vienna:* Dr. Arnold Durig has been recognised as *privat-docent* of General and Experimental Pathology.—*Würzburg:* Dr. Rostoski has been recognised as *privat-docent* in Medicine.

LITERARY INTELLIGENCE.—In a few days the Walter Scott Publishing Co. will issue a volume by the Rev. A. N. Cooper, M.A., vicar of Filey, Yorks, descriptive of some of his tours, entitled "The Tramps of 'The Walking Parson.'" Mr. Cooper has earned for himself the *sobriquet* of "The Walking Parson" by his feats of pedestrianism. We consider that in these days walking has been far too much replaced by other forms of exercise and mechanical methods of locomotion; and we look forward to a perusal of Mr. Cooper's book, setting forth the manifold benefits and pleasures of pedestrianism.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. J. W. K. Mullen, L.R.C.P. & S. Irel., the medical superintendent of the Ladywell Sanatorium, has been presented by the nurses and servants of that institution with a study chair on the occasion of his completion of 21 years' service at the sanatorium.—Mr. C. A. W. Chichester of Gillingham has by his will bequeathed £100 to the Devon and Exeter Eye Infirmary.—At the Camelford (Cornwall) Town-hall on July 25th the members of the Camelford branch of the St. John Ambulance Association presented Mr. Ernest John Jerome, L.R.C.P. and S. Edin., with a Gladstone bag in appreciation of his services as honorary lecturer.

ODONTOLOGICAL SOCIETY.—The following officers have been elected for 1902-03:—President: William A. Hunt. Vice-Presidents: F. J. Bennett, W. H. Woodruff, E. G. Betts, W. S. Woodburn (Glasgow), W. B. Bacon (Tunbridge Wells), and H. B. Mason (Exeter). Treasurer: C. F. Rilot. Librarian: H. Baldwin. Curator: J. F. Colyer. Editor of Transactions: H. Lloyd Williams. Honorary secretaries: J. H. Mummery (Foreign), W. Rushton (Council), and Montagu F. Hopson (Society). Councillors (Resident): R. Wynne Rouw, J. Mansbridge, Morton A. Smale, R. Dennison Pedley, J. Percy Smith, George Hern, A. Hopewell-Smith, E. Preedy, and Carl Schelling. (Non-Resident): G. O. Whittaker (Manchester), W. A. Rhodes (Cambridge), W. Glaisby (York), J. J. H. Sanders (Barnstaple), E. A. Bogue (New York), J. F. L. Pike (Sheffield), G. W. Watson (Edinburgh), Kevin E. O'Duffy (Dublin), and John E. Grevers (Amsterdam).

DONATIONS AND BEQUESTS.—Under the will of Mrs. M. E. Scott of Hayward's Heath £5000 are bequeathed to the Sussex County Hospital and £3000 to the Royal Hospital for Consumption, Ventnor.—By the will of Mr. James Hancock of Sheffield £500 will ultimately go to the Jessop Hospital for Women.—By the will of Mr. A. Scrutton of Woodford £500 are bequeathed to the London Hospital for the endowment of a bed and £500 to Mrs. Mearnes's Convalescent Home at Folkestone for the same purpose.—The Duke and Duchess of Aosta have sent a donation of 1000 francs to the funds of the Italian Hospital, Queen-square.—The City Corporation has granted 50 guineas

towards the fund for building a nurses' home for the British Lying-in Hospital, Endell-street, and the same amount to Queen Charlotte's Lying-in Hospital, Marylebone-road.—By the will of Mr. Thomas Patey Chappell £500 are bequeathed to St. George's Hospital and £100 to the Teddington Cottage Hospital.—Miss Clara Squire by her will bequeathed £100 each to the Charing Cross Hospital, the Cancer Hospital, Fulham, the Middlesex Hospital, St. Mary's Hospital, Paddington, and the National Hospital for the Paralysed and Epileptic, Queen-square; and £200 to the Westminster General Dispensary, Soho.

INCREASE OF SALARY.—At the meeting of the Plympton Rural District Council held on July 25th it was unanimously decided to increase the salary of the medical officer of health (Mr. S. Noy Scott, L.R.C.P. Lond., M.R.C.S. Eng., D.P.H.) from £150 to £200 per annum.

HOSPITAL FOR CONSUMPTION, BROMPTON.—A country branch and convalescent home for open-air treatment in connexion with the Hospital for Consumption, Brompton, is now being built at Heatherside from plans prepared by Mr. E. T. Hall, F.R.I.B.A. This building has been specially designed and will combine the latest improvements. The patients will be drafted from the parent hospital on the recommendation of the physicians in charge. The site is on the well-known Chobham Ridges, about three miles from Frimley, Surrey. This new departure will involve a large outlay, about £60,000, and funds are urgently needed.

MAUD HOSPITAL, EXMOUTH.—The second annual meeting of the subscribers of this institution was held on July 22nd; the report showed that 73 in-patients and 104 out-patients had been treated during the year ended June 30th, 1902. The financial statement showed that the income amounted to £527 and the expenditure was £455. At the last meeting of the subscribers of this hospital it was decided that a new institution should be erected under the name of "The Exmouth Cottage Hospital" as a memorial to the late Mrs. Hume Long. The cost is estimated at £4000, towards which £3000 have been received and the committee hope that the new building will be completed within the year.

Parliamentary Intelligence.

HOUSE OF COMMONS.

TUESDAY, JULY 22ND.

The Sanitary Condition of Post Offices.

SIR WALTER FOSTER asked the Secretary to the Treasury, as representing the Postmaster-General, whether the Post Office had arranged to permit the inspection of post-office buildings by Factory Act officials when such inspection was considered necessary; and whether the Postmaster-General would direct that upon the staff making complaints in writing with reference to the sanitary condition of the buildings in which they work an inspection would take place and the result be communicated to the men concerned.—MR. AUSTEN CHAMBERLAIN replied: The Postmaster-General has made an arrangement with the Home Office under which he is able, if he considers it necessary, to avail himself of the services of a factory inspector in dealing with any question whether a post-office building fulfils the conditions of the Factory Acts, and he has already done so. Every complaint made by the staff as to the sanitary condition of a post-office building is thoroughly investigated, but the Postmaster-General cannot undertake to call in a factory inspector every time a complaint is made.

WEDNESDAY, JULY 23RD.

Medical Examination of Passengers at Calcutta.

MR. WEIR asked the Secretary of State for India whether any arrangements had yet been made for the punctual attendance of the medical officer for the examination of passengers leaving Calcutta by morning sailings of outward bound steamers; and could he state whether the shed in which passengers were examined had yet been put in a state of repair and the practice of medical examination in a public thoroughfare discontinued.—LORD GEORGE HAMILTON replied: I have no information about these matters. They are such as are dealt with by the local authorities without being reported to the Secretary of State. Any complaints on the subject should be addressed to these authorities.

THURSDAY, JULY 24TH.

Poor-law Reform in Scotland.

On the motion of MR. BAIRD a Bill was introduced and formally read a first time to extend the powers of the Local Government Board for Scotland in regard to the detention of poor persons in poor-houses and parish hospitals.

Poor-law Medical Officers and Private Practice.

MR. CATHCART WASON asked the Lord Advocate if his attention had been called to an advertisement for a Poor-law medical officer for the parish of Farr, Sutherlandshire; and whether such advertisement was in accord with the regulations of the Local Government Board.—THE LORD ADVOCATE replied: The attention of the Local Government Board has been called to the advertisement referred to and it is in communication with the parish council of Farr. The Board has not made a formal regulation on the subject, but when it finds a parish council interfering with the fees charged by its medical officer in his private practice it calls upon the council to cease doing so, and it has repeatedly taken this course.

Dental Provision at the Duke of York's School.

MR. CATHCART WASON asked the Financial Secretary to the War Office if any arrangements had been made for dentistry and dental inspection of the children at the Duke of York's School; and, if so would he state their nature.—LORD STANLEY replied: Arrangements have been approved for the provision of a dentist and the necessary materials for dentistry for the next 12 months, after which period the arrangements are subject to revision.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

The Journal of Obstetrics and Gynæcology of the British Empire. Volume I., January to June, 1902. Price not stated.

Aids to Practical Dispensing. By C. J. S. Thompson, Fellow of the Royal Historical Society; Member of the Pharmaceutical Society of Great Britain. Third edition, enlarged, with Illustrations. Price, bound in cloth, 2s. 6d.; paper 2s.

Death and Sudden Death. By P. Brouardel, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris; and F. Lucas Benham, M.D., B.S. Lond., M.D. Adelaide, Member of the Royal College of Physicians of London. Second edition. Price 10s. 6d. net.

BOEHME, GEORG (A. Deichert'sche Verlagsbuchhandlung Nachfolger), Leipsic.

Die Motilitätsstörungen des Auges, auf Grund der Physiologischen Optik, nebst einleitender Beschreibung der Tenon'schen Fascienbildungen. By Dr. Ernest E. Maddox, Ophthalmic Surgeon, Royal Victoria Hospital, Bournemouth. Authorized German Edition, elaborated by Dr. W. Asher, Augenarzt in Leipsic. Price, paper, M.6.; cloth M.7.

CASSELL AND COMPANY, LIMITED, London, Paris, New York, and Melbourne.

The Tale of a Field Hospital. By Sir Frederick Treves, Bart., K.C.V.O., C.B. Cheap edition. Price 3s. 6d.

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

The Force of Mind; or, the Mental Factor in Medicine. By Alfred T. Schofield, M.D., M.R.C.S., Honorary Physician to Friedenheim Hospital. Price 5s. net.

A Manual of Bacteriology, Clinical and Applied, with an Appendix on Bacterial Remedies, &c. By Richard T. Hewlett, M.D., M.R.C.P., D.P.H. Lond. Professor of General Pathology and Bacteriology, King's College, London. Second edition. Price 12s. 6d.

A Text-book of Medicine. Begun by the late Charles Hilton Fagge, M.D., F.R.C.P.; completed after his death and since revised or rewritten by Philip Henry Pye-Smith, M.D., F.R.S. Fourth edition. In two volumes. Vol. II. Price 21s.

CORLENTZ, OSCAR, Berlin, W., 35.

Die Anatomie und Physiologie der Kehlkopfnerven. Mit ergänzenden pathologischen Beiträgen. Bearbeitet von Dr. A. Onodi, Professor der Rhino-Laryngologie an der Universität in Budapest. Price M.6.

GEORGE NEWNES, LIMITED, Southampton-street, Strand, W.C.

The Story of Animal Life. By B. Lindsay. Price 1s.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Erinnerungs-Blätter an die Leyden-Feier in April, 1902. Price M.2.

SAMPSON LOW, MARSTON, AND CO., LIMITED, St. Dunstan's House, Fetter-lane, E.C.

Diagnosis by Means of the Blood. Illustrated by 154 Photomicrographs. By Robert Lincoln Watkins, M.D., of New York. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ATKINS, SYDNEY ERNEST, L.R.C.S. Irel., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Northlew District by the Okehampton (Devon) Board of Guardians.

BELL, THOMAS, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health to the Urban District Council of Shepsted.

BENSON, CHRISTOPHER RICHMOND, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Bratton Clovelly District by the Okehampton (Devon) Board of Guardians.

BRAMWELL, EDWIN, M.B., C.M. Edin., M.R.C.P. Lond., M.R.C.P. Edin., has been appointed Assistant Physician to the Leith Hospital.

BROADBENT, JOHN, M.A., M.D. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician to the London Fever Hospital.

BURTON, ARTHUR, M.D. Cantab., has been appointed Certifying Surgeon under the Factory Act for the Cromer District.

COX, ERNEST A., M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the No. 4 District of the Daventry Union.

DAVIES, JOSEPH, F.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., J.P., has been appointed Deputy Medical Officer of Health of Swansea.

DOBIE, HENRY EDWIN NEWMAN, M.B. Edin., has been appointed Public Vaccinator for the Midland District of Victoria, Australia.

GIBSON, WILLIAM, M.B., Ch.B. Glasg., has been appointed Medical Officer of Health to the Cheadle Rural District Council.

GODFREY, HORACE PERCY, M.B. Melb., F.R.C.S. Eng., has been appointed *pro tem.* Visiting Surgeon to the Gaol at Orange, New South Wales.

GORDON, JOHN, M.D., B.S. Melb., L.R.C.P. Lond., F.R.C.S. Eng., has been elected Honorary Surgeon to Out-patients of the Melbourne Hospital, Victoria, Australia.

GOUGH, JOHN HARLEY, F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Torbay Hospital, Torquay.

HARRATT, T. T., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health of Rye in succession to Mr. A. E. Vidler, resigned.

HAWORTH, E., M.B., M.S. Glasg., has been appointed Medical Officer of Health for Oswaldtwistle.

HOPEWELL-SMITH, A., L.R.C.P. Lond., M.R.C.S., L.D.S. Eng., has been appointed Lecturer on Dental Anatomy and Physiology at the Royal Dental Hospital of London, vice Mr. C. S. Tomes, resigned.

HUNT, ERNEST, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Kingsteignton District by the Newton Abbot (Devon) Board of Guardians.

JOHNSON, CHARLES HAROLD, M.D. Edin., has been appointed Health Officer for the Shire of Yackandandah, Victoria, Australia, vice Dr. Frederick Charles Acton, resigned.

LONG, SYDNEY HERBERT, M.B., B.C. Cantab., has been appointed Medical Officer of Health to the St. Faith's Rural District Council.

MATTHEW, EDWIN, M.A., M.B., C.M. Edin., has been appointed Assistant Physician to the Leith Hospital.

MEREDITH, R. WILLIAM HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 1 District by the Wellington (Somerset) Board of Guardians, vice Dr. John Meredith, resigned.

PECK, HERBERT, M.D. Edin., has been re-appointed Medical Officer of Health to the Chesterfield Borough and Rural District Councils.

PIPETTE, WALTER, L.R.C.P. Edin., L.R.C.S. Edin., L.S.A., has been appointed Medical Officer for the No. 1 District by the Bridgwater Board of Guardians.

POLLOCK, JOHN ROBERT RUSSELL, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of the Tiverton (Devon) Rural District.

RENNIE, GEORGE EDWARD, M.D., M.R.C.P. Lond., has been appointed a Member of the Medical Board of New South Wales, vice Mr. H. G. A. Wright, deceased.

SCOTT, JAMES ANDREW NEPTUNE, M.D. Glasg., has been appointed Health Officer for the Shire of Wycheproof, vice Dr. Ralph Charles Brown.

SECCOMBE, J. W. S., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to St. George's Hospital.

SPRINGTHORPE, JOHN WILLIAM, M.A., M.D. Melb., has been appointed President of the Dental Board, Victoria, Australia.

STAWELL, R. R., M.B. Melb., has been appointed In-door Physician to the Children's Hospital, Melbourne, Victoria, Australia.

STEVENS, W. W., M.B., Ch.M. Syd., has been appointed Junior Medical Officer at the Coast Hospital, New South Wales, vice Dr. Ada C. Affleck, resigned.

TALBOT, FRANCIS T., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Surgeon to the Stockton and Thornaby Hospital.

TATE, ISOBEL A., M.B., B.S. R.U.I., has been appointed Resident Assistant Medical Officer at the Union Workhouse, Burnley.

TAYLOR, M. H., J.P., L.R.C.P., L.R.C.S., has been appointed Coroner for the Kingston District of Surrey, vice Mr. A. Braxton Hicks, deceased.

TOYE, E. J., M.D. Lond., has been appointed Medical Officer of Health to the Northam (Devon) Urban District Council, vice Mr. Mahood, resigned.

VALENTINE, W. A., M.D. Univ. Dublin Trin. Coll., has been appointed District Medical Officer and Public Vaccinator of the Northam District of the Bideford Union, vice Mr. A. E. Mahood, resigned.

WELLINGTON, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Coroner for the City and Liberty of Westminster and for the South-Western District of London under the London County Council.

WILLIAMS, PENROSE LANYON WATKIN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bridgwater Workhouse.

WILSHAW, T. R., L.S.A., has been appointed Medical Officer of the Newsham District of the Richmond Union, Yorks.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASCOATS HOSPITAL, Manchester.—Resident House Surgeon. Salary £100 per annum, with board, residence, &c.

AYR DISTRICT ASYLUM, Ayr.—Locum Tenens for August. Salary 10 guineas.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum (with allowance of £30 per annum for cab hire), rooms, fire, light, and attendance.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £160 by annual increments of £10, with board, furnished apartments, laundry, &c.

COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £120, rising to £150 per annum, with furnished apartments, board, washing, and attendance.

DUNDEE SANATORIUM FOR CONSUMPTION.—Medical Superintendent. Salary £250 per annum.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer for Hospital at Salterhebble, Halifax. Salary £130 per annum as Resident Medical Officer, and £30 per annum for Dispensing, making a gross salary of £160 per annum, with apartments, rations, and washing.

HAYDOCK LODGE ASYLUM, Lancashire.—Assistant Medical Officer. Salary £175 a year, with furnished quarters, board, washing, &c.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £60 per annum, with board and lodging.

INDIA.—Plague Work in.—Medical Men wanted for Plague Duty in India for a period of nine months. Salary will be Rs. 700 a month, or, in the case of those who are in possession of the D.P.H., or who have already served on Plague duty to the satisfaction of the Government, Rs. 800 a month. First-class passage to India and back and an outfit allowance of £25.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician to the Skin Department.

LONDON THROAT HOSPITAL, 204, Great Portland-street.—House Surgeon for six months. Salary at rate of £50 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £90, with residence, board, and washing.

METROPOLITAN ASYLUMS BOARD.—A First Senior Male Assistant Medical Officer, unmarried, for the Asylum, Darenth, near Dartford, Kent. Salary £250 per annum, rising to £300, with rations, lodging, attendance, and washing.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £200 per annum, increasing by £15 every year, with apartments, attendance, light, and fuel.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum.

ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

SALOP INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board and apartments.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £60 per annum, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Lectureship on General Anatomy and Physiology in the Medical School of this Hospital.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon. Salary at rate of £40 per annum, with board, washing, and residence.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Appointment for six months, with honorarium at rate of £75 per annum, board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Croydon, in the county of Surrey.

Births, Marriages, and Deaths.

BIRTHS.

BALY.—On July 27th, at Goldhurst-terrace, South Hampstead, the wife of C. F. Peyton Baly, M.R.C.S., L.R.C.P. Lond., L.D.S. Eng., of a daughter.

HAYDEN.—On July 21st, at Lydart, Pepys-road, New-cross, S.E., the wife of G. Hayden, M.R.C.S. and L.R.C.P. Lond., of a daughter.

RUBRA.—On July 23rd, at 39, Cecile-park, Crouch-end, N., the wife of Henry H. Rubra, M.D. Brux., M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGE.

SAVAGE—COOPER.—On the 26th inst., at St. Matthew's, Brixton, by the Rev. Dr. D. Springett, Vicar, assisted by the Rev. George Savage, uncle of the bridegroom, and the Rev. Marcus Rainsford, Thomas Copeland Savage, F.R.C.S., second son of the late Warwick Savage, Esq., of Burslem, Staffs, to Madeline, second daughter of William Cooper, Esq., C.C., 65, Brixton-hill. Future address, Auckland, New Zealand.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

RELIGION AND QUACKERY.

A ROMAN Catholic newspaper makes the following extraordinary comments upon the letter signed "E. J. H." which appeared in the columns of THE LANCET of July 19th (page 194).

Medicinal Controversy.—THE LANCET has opened its columns to a correspondent, "E. J. H.," who, to judge from his sympathies, is also a medicine man. This "E. J. H." is indignant that the monks of Buckhurst Abbey should advertise their salve, suggesting that for reprisals' sake some members of the medical profession should announce that they will be prepared to "preach, hear confessions, and perform some of the other functions peculiar to the clergy." Can't "E. J. H." see he is doing the first, albeit, badly, whilst the body, we take it he represents, is not unaccustomed to hear confessions in quite another form. The editorial comment is quite juridical, and apparently without prejudice.

A Matter of Discretion.—But there are very many persons who trust simple remedies rather that the complex and unknown qualities of the medicines used by the modern disciples of Galen and Hippocrates, to say nothing of Æsculapius. Given this fact, we would ask the editor of THE LANCET, Is it not better that the preparation of these simple remedies should be in the hands of trusty monks than, as sometimes happens, in those of men of little skill and less stability of character? The question of the propriety of advertising the remedies is quite out of THE LANCET editor's range, and, when approval is given by Catholic authorities, we would advise the physician to stick to his pharmacopœia, and mind his own patients.

As the editor of our contemporary has asked us the question we have no hesitation in saying that it is not better that the preparation of any remedies should be in the hands of monks, for monks in their corporate capacity are not chemists, pharmacologists, or medical men. A "trusty" monk is one who discharges his monastic duties with conscientiousness, not one who makes salves. Lord Kitchener is a "trusty" soldier and Mr. Victor Trumper is a "trusty" cricketer, but neither gentleman ought to be allowed to manufacture and to traffic in medicinal nostrums, because neither has received the necessary training. We think that we know our own range, but we are certain that the editor who questions this matter is not in an equally good plight: he does not understand the evils of quackery, the qualifications of professional medical men, or the limitations of professional pietists. He is apparently unaware that the duties to the community discharged by the monks in the middle ages have now devolved on other people, all the education of the country being no longer centred in the Church. THE LANCET, by the way, is not concerned with differences of religious opinions, and we need hardly say that our feelings would be just as much against a confraternity of the English Church making and selling medicinal remedies as it is against similar action on the part of a Roman Catholic body: frequent evidence of this impartiality will be found in our columns.

FUND FOR MEMORIAL TO LATE SURGEON-GENERAL NASH.

THE following additional subscriptions have been received:—

	£	s.	d.
Surgeon-General J. B. C. Reade, C.B., K.H.S. ...	1	0	0
Lieutenant-Colonel L. E. Anderson	1	0	0
Surgeon-Major-General J. Davis	1	0	0

	£	s.	d.
Previously acknowledged	111	1	0
Total	114	1	0

"A NOVEL PATENT."

UNDER this heading in THE LANCET of May 17th, 1902, page 1434, we drew attention to a patent "burial vault," consisting of a kind of outer coffin, having a groove or channel all round the upper margin of the main portion or body, to contain a sealing material, while the lid has a flange which dips into the sealing material. We understand that Dr. L. G. Thompson some 14 years ago, while he was surgeon superintendent of Launceston Hospital, Tasmania, designed a similar metal shell having a lid fitting into a water joint. The shell had a glass window in it so that a body could be viewed.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Lieutenant-Colonel J. W. U. Macnamara, I.M.S., and the following officers of the Royal Army Medical Corps:—Colonel J. Dallas Edge, C.B.; Lieutenant-Colonels J. Lees Hall, W. J. Baker, J. A. Gormley, T. J. O'Donnell, D.S.O., C. W. Thiele, G. E. Twiss, and E. Butt; Majors W. W. Pike, D.S.O., C. Birt, F. R. Newland, T. B. Beach, H. T. Knaggs, Reilly, and T. Du B. Whaite; Captains C. E. Pollock, H. B. G. Walton, G. B. Crisp, D. D. Shanahan, G. W. Tate, J. Hennessy, J. C. Jameson, G. St. C. Thom, Chevers, C. G. Spencer, and J. H. Rivers; Lieutenants W. L. Steele, H. Richardson, R. F. M. Fawcett, J. V. Roche, J. J. W. Prescott, D.S.O., and H. Bransbury; and Lieutenants and Quartermasters Spackman and Morrison. The fund now amounts to £483. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

INCOME TAX AND CLUB APPOINTMENTS.

WE have received the following letter for publication. It is a copy of one sent to the Inland Revenue by a medical man holding a club appointment:—

Alderney House, Alderney, C.I.,
July 12th, 1902.

SIR,—The enclosed £2 4*s.* 4*d.*, 1st quarter's moiety, 1902, I send under protest and intend to apply to the Income Tax Repayment Association with regard to this payment and two previous payments.

The charge is in regard to profits from appointment as medical officer under the Shepton Mallet Board. When I tell you that the appointment consists in taking charge and visiting at all hours of the day and night the sick and infirm of ten (10) parishes—viz., Ashwick, Oakhill, Binegar, Emboro, Stratton-on-the-Fosse, Holcombe, Stoke Lane, Downhead, West Cranmore, and East Cranmore, and supplying drugs and instruments, for £115 per annum (which includes keeping and attending three distant surgeries) you will wonder where the profit comes in. The district extends from Chewton Mendip to Leigh-on-Mendip (12 miles) and from Chilcompton to Shepton Mallet (10 miles); one horse cannot work it.

The Shepton Mallet Board, with a wealthy brewer at its head (I hope he pays income tax for all his public-houses), cuts the doctor down to 10*s.* for a midwifery case, and driving miles to examine and certify a lunatic is reduced from 21*s.* to 10*s.* When I attended a confinement I sometimes had to pay 12*s.* for carriage hire and have gone nine miles in the snow in the middle of the night. The entering and clerking of all the cases, correspondence, &c., is worth employing a clerk for.

Other unions pay for operations and fractures, Shepton Mallet does not (and it is a wealthy union). The reason I have troubled you with this statement is that for the last four years I have filled up forms and returned them in the usual way and found that after satisfying the assessor or collector at Emboro (Mr. Flower) I had then to deal with the surveyor at Wells, and after receiving assurances from him with regard to my position I have had to dea with the gentleman at Frome and finally found that Bath had joined in and that from all parts of the compass I was now being set upon to disgorge some of the "profits."

If the same efforts had been directed against *higher game* what a fine income Oakill would bring in. After what I have told you with regard to No. 2 (Ashwick and Oakhill) district, Shepton Mallet Union, you will not be surprised to know that about a dozen medical officers in as many years have moved across its horizon as in a cinematograph, so to speak, and that if the income tax goes on while the salary remains stationary the rate of the procession's progress will receive a still further stimulus.

I was, Sir, truly yours,
(Signed) J. J. HANLY, M.A., L.R.C.P. & S. Ed.,
Late Med. Officer, Ashwick District.

The Secretary, Inland Revenue, Somerset House.

THE DIMINISHING POPULATION OF FRANCE.

THE French people are threatened with a new danger. An attempt is being made to obtain an alteration of the law to enable any citizen to obtain for the sum of one franc a "permit de chasse" available for one day. Amongst the numerous and brilliant accomplishments of the French shooting is not generally reckoned and the possibility that anyone may obtain a shooting licence for a franc has a serious aspect. The gentleman who writes on Shooting in *Le Figaro* is fairly aghast at the danger; as he feelingly observes, "it would be impossible to walk in the country without the risk of being shot." The ordinary Briton looks with some misgiving on the present French sportsman, but he, at any rate, is a picturesque object when fully attired for the chase, and it does not appear that he is, as a rule, particularly destructive to any form of living creature, human or otherwise. Should the franc sportsman come into being a new industry may be started in letting out to him a suitable "habit de chasse" and a gun, and we would commend the idea to M. Caran d'Ache, the first of living caricaturists. His facile pencil would avail more than the strongest words we could pen to avert a danger which would undoubtedly tend to depopulate France.

EAR DRUMS.

THE A. P. Murray Company of Century House, Regent-street, W., is issuing circulars, curiously enough addressed "To the Medical Profession," calling attention to the "Murray" Invisible Ear Drum. It is distributing a sample outfit of assorted drums for 17*s.* 6*d.*, saying that "the treatment of deafness is one which most physicians have overlooked, and yet it is a most lucrative one." Possibly that is why the A. P. Murray Company has stepped into the breach. In

the course of a pathological disquisition it is stated that head noises are caused by disorganised or disarranged ossicles and that the "Murray" Drum is not made of rubber, because, no doubt, "Some people cannot wear a rubber coat or a mackintosh without causing an acute case of rheumatism." The company claims that it "offers a remedy which we believe has not and will not be equalled." If its remedy is as novel as is its pathology we at once present the company with a testimonial, for we are certain that scientific medicine knows of nothing like it. But what is the reason of sending this rubbish to medical men? Or have the circulars found their way also to the public?

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

THE following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C., and it will afford him much pleasure to receive as many more as possible within the next few day before the trustees have ceased to act:—

	£	s.	d.		£	s.	d.
Dr. Robert C. Brown ...	1	1	0	Dr J. J. K. Duncanson ...	0	10	0
Dr. Hugh W. Arbuckle ...	0	5	0	Dr. David Lawson	1	1	0
Mr. A. Angus Martin ...	0	5	0	J. A. M.	0	5	0
Dr. H. Tyrrell Griffiths ...	1	1	0	Mr. Thomas Graham ...	0	10	0
Mr. C. H. Golding-Bird	2	2	0	Dr. J. H. T. Frampton	0	10	6
Mr. Frederic Durham ...	1	1	0	Dr. Richard Wafford Eve	1	1	0
Dr. Byrom Bramwell ...	1	1	0	Mr. Reginald Harrison ...	1	1	0
Mr. Samuel Bentham ...	0	5	0	R. D.	0	5	0
Mr. H. H. J. Edwards ...	0	5	0	Dr. F. D. Boyd, C.M.G.	0	10	6
Dr. W. Hall Calvert ...	0	7	6	Dr. Robert Barnes	2	2	0
Mr. W. J. V. Harle	0	5	0	Mr. F. A. Steele	0	5	0
Mr. Walter Alfred Ward	0	5	0	Dr. Arthur J. G. Cross ...	2	2	0
Mr. Thomas Baker	0	10	0	Mr. Leedham Fuller ...	1	0	0
Dr. G. H. Batterbury ...	0	5	0	Mr. W. O. Magoris	0	10	6
Mr. Tom Clark	1	1	0	Dr. E. F. S. Green (for self and Dr. A. Rose)...	0	10	6
Dr. B. H. J. Gardiner ...	1	1	0	Dr. William Taylor, J.P.	1	1	0
Dr. Charles J. Aitken ...	0	2	6	Dr. Hugh Davies	0	10	6
Mr. H. Ashton	0	2	6	Mr. B. C. Broomhall ...	0	5	0
Dr. Edmund L. Anderson	0	5	0	Dr. J. W. Ballantyne	1	1	0
E. B.	0	5	0	Mr. J. A. Kingdon	2	2	0
Dr. Frederick J. Green ...	0	10	6	Mr. F. W. Chesnaye ...	2	2	0
Dr. W. E. N. Dunn ...	1	1	0				

Mr. C. Hamilton Whiteford.—The filthy little pamphlet is circulated in the most barefaced manner by the quack whose address is given within. We have referred to the matter and shown up the man in our columns. Of course, to do so has not much practical result, as readers of THE LANCET are not likely to consult him. What we are unable to understand is the powerlessness of both the police and the post-office to stop the dissemination of such obscenity. The matter has been brought to their attention by us and others but no effective steps are taken.

Surgeon.—We think that the claim for payment in such circumstances is very seldom made, but the surgeon whose work has been done very often offers the fee to his professional colleague. This, we think, should always be done whether the fee is accepted or not.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), nit. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (6th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (7th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (9th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2s., by post 2s. 3d.

To be obtained on application to the Manager, accompanied by remittance.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 31st, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
July 25	29·90	W.	0·01	117	70	57	57	61	Cloudy
,, 26	29·57	S.W.	0·10	129	77	58	62	66	Cloudy
,, 27	29·58	S.W.	0·03	102	68	58	55	61	Cloudy
,, 28	30·10	S.W.	0·10	121	71	52	55	60	Cloudy
,, 29	30·14	S.W.	...	121	74	55	57	61	Cloudy
,, 30	30·12	W.	...	105	69	54	57	61	Cloudy
,, 31	30·06	ENE	0·02	105	67	56	54	58	Overcast

During the week marked copies of the following newspapers have been received:—*Leicester Daily Mercury, Leicester Daily Post (Weekly Edition), Mining Journal, Scientific American, The Reporter (Borough of Salford), Evening Post (San Francisco), The Daily Telegraph (Launceston, Tasmania), Pioneer Mail, Devon and Exeter Express, Burnley Express, Scotsman, Dublin Evening Telegraph, Southampton Echo, Belfast News, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer Daily Express, Standard, Windsor and Eton Express, Globe, Westminster Gazette, Sunday Times, Derbyshire Times, Lincolnshire Echo, Torquay Directory, Reading Mercury, Herts Advertiser, Times of India, Aberdeen Free Press, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Post, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. S. Allpress, Sudbury; Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.; Mr. George Allen, Lond.; Prof. Clifford Allbutt, Cambridge; A. V. W.

B.—Mr. H. L. Barnard, Lond.; Sir Hugh Beevor, Lond.; Messrs. Boulton and Paul, Norwich; Dr. Hubert Bisa, Lond.; Birmingham University, Secretary of; *Birmingham Daily Post*; Mr. Arthur H. Buck, Brighton; Mr. Edward Berdoe, Lond.; Dr. W. Lucknow Bradshaw, High Wycombe.

C.—Messrs. J. and A. Carter, Lond.; Messrs. Cassell and Co., Lond.; Messrs. W. and R. Chambers, Edinburgh; Cornwall County Asylum, Bodmin, Medical Superintendent of; Dr. A. Collie, Fôocy; Mr. F. Cox, Radstock; Dr. A. Crombie, Lond.; Messrs. J. and A. Churchill, Lond.; Dr. Harry Campbell, Lond.; Dr. Richard Caton, Liverpool; Central Insurance Co., Birmingham; Mrs. Cumming, Lond.; Sir Savile Crossley, Bart., Lond.; C. H.

D.—Mr. Sydney Davey, Lond.; Mr. E. Donaldson, Londonderry; Dr. C. Delville, Bayonne; Mr. E. Donaldson-Shi, Hertford; Messrs. Davis and Co., Torquay; Dr. H. Damm, Copenhagen; Messrs. De Beers Bros., and Co., Lond.; Dundee Corporation, Town Clerk of; Director-General, Army Medical Service; Derby County Asylum, Mickleover, Clerk of; Drewett Hong Co., Lond., Secretary of.

E.—Electrical Standardising Institution, Lond., Secretary of; Messrs. Eason and Son, Dublin; Lieutenant-Colonel R. H. Elliott, Lond.; *Egyptian Medical Journal*, Cairo.

F.—Mr. C. Fraser, Dagenham; Messrs. J. S. Fry and Sons, Bristol; F. D. C.; Mr. H. Frowde, Lond.

G.—Mr. J. H. Gough, Torquay; Messrs. R. W. Greeff and Co., Lond.; General Apothecaries' Co., Lond., Secretary of; Messrs. Giles, Schacht, and Co., Clifton; Dr. W. J. Garbutt, Birmingham; Dr. A. J. Gregory, Cape Town; Lieutenant-Colonel H. R. Greene, Lond.; Good Health Publishing Co., Battle Creek, U.S.A.; Glasgow Royal Infirmary, Superintendent of.

H.—Mr. O. Holst, Eastbourne; Messrs. Hirschfeld Bros., Lond.; Mr. F. Harrison, Sheffield; Mr. Reginald G. Hansell, Lond.; Dr. Henry Humphreys, Torquay; Halifax Union, Clerk of; Huntingdon County Hospital, Hon. Secretary of; Mr. H. E. Hooper, Lond.; Hospital for Diseases of the Throat, Lond., Dean of.

I.—Messrs. I. Isaacs and Co., Lond.

J.—Mr. Paul John, Lond.

K.—Messrs. Kilner Bros., Lond.; Mr. G. G. Kirby, Leicester; Mr. R. G. Kirton, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. Eric Layman, Lond.; Messrs. Lindsey and Sons, Lond.; London Hospital Medical College, Lond.

M.—Dr. C. A. McBride, Lond.; Mr. B. G. A. Moyniham, Leeds; Medical Society of Victoria, Melbourne, Hon. Treasurer of; Manchester Medical Agency, Secretary of; *Medical Review of Reviews*, New York; Messrs. J. F. Macfarlan and Co., Edinburgh; Dr. W. C. Minchin, Kells; Mr. E. D. Macnamara, Colombo; *Morningside Mirror*, Edinburgh; Miss B. N. Melladew, Lond.; Mr. A. D. McDowall, Lond.; Dr. John McGibbon, Liverpool; Medical Graduates' College and Polyclinic, Lond., Secretary of; Rev. H. A. Mitton, Durham; Dr. J. H. Murray, Suva, Fiji; Medical Society of London, Registrar of; *Midland Counties Herald*, Birmingham; Mr. G. McCandlish, Lond.

N.—Dr. David Newman, Glasgow; National Temperance League, Chairman of; N., Burnley; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Mr. M. C. O'Gorman, Aughrim; Dr. T. Oliver, Newcastle-on-Tyne; Odontological Society, Lond., Secretary of; Oxygenophore-Sabatier, Paris; Mr. J. M. Orpen, Salisbury, Rhodesia.

P.—Mr. C. H. Powers, Gosforth; Mr. Y. J. Pentland, Edinburgh; Dr. T. W. Parkinson, Lond.; Mr. A. W. Pritchard, Clifton; Dr. R. Paramore, Lond.; Mr. Edward J. Pritchard, Lond.; Dr. F. M. Pope, Leicester.

R.—Dr. J. Reid, Southfields; Mr. Henry Reeves, Lond.; Messrs. Reynolds and Branson, Leeds; Royal United Hospital, Bath, Secretary of; Dr. Barbosa Romeo, Rio de Janeiro; Messrs. Robertson and Scott, Edinburgh; Royal College of Surgeons in Ireland, Dublin, Registrar of.

S.—Mr. H. R. Salmon, Lond.; Mr. A. Stenhouse, Glasgow; Messrs. W. B. Saunders and Co., Lond.; Sussex County Hospital, Brighton, Secretary of; Mr. M. A. McIntyre Sinclair, Stroud; Surgical Supply Association, Manchester, Secretary of; Mr. W. Somerville, Bury; Seamen's Hospital Society, Secretary of; Mr. J. W. Seccombe, Lond.; Professor W. Japp Sinclair, Manchester; Mr. H. W. Seager, Lisbon; Mr. George Stoker, Lond.; Professor E. A. Schäfer, Edinburgh; Scholastic, Clerical, &c., Association, Lond.; Messrs. G. Street and Co., Lond.; Saarbach's News Exchange, Lond.

T.—Mr. J. Lynn Thomas, Cardiff; Mr. Lewis A. Tallerman, Lond.; T. J. C.; Dr. H. G. Turney, Lond.

U.—University College, Liverpool, Dean of the Medical Faculty of.

V.—Dr. W. A. Valentine, Appledore; Mr. Van Praagh, Lond.

W.—Dr. Hugh Woods, Lond.; Mr. T. Poyntz Wright, Hunstanton; Messrs. Whittaker and Co., Lond.; Wolverhampton General Hospital, Secretary of; Westminster Hospital Medical School, Dean of; Wigan Medical Society, Hon. Secretary of; Miss E. Wright, Lond.; War Office, Lond.; Mr. C. F. Oscar Walker, Dewsbury; Messrs. Willing, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. A. Allen, Senghenith, Wales; A. W.; A. A.; A. E. L.; Mr. W. Armstrong, Buxton; Dr. W. D. Anderson, Ballachulish; Ayr District Asylum, Medical Superintendent of.

B.—Mr. T. Bell, Lancaster; Hon. Pamela Bruce, Shirehampton; *Birmingham Daily Gazette*; Staff-Surgeon P. W. Bassett-Smith, R.N., Haslar; Messrs. J. and H. Bell, Nottingham; Biggleswade Rural District Council, Clerk of; Dr. R. F. Bowden, Ramsgate.

C.—Mr. J. Jackson Clarke, Lond.; Messrs. T. Christy and Co., Lond.; Dr. G. J. Cressy, Crawley; Mr. Mr. C. E. Cowen, Cala, Cape Colony; Messrs. Clark, Harrison, and Co., Lond.; Mr. F. de B. Collenette, Guernsey.

D.—Mr. S. C. Duncan, Egham; Messrs. Doulton and Co., Lond.; Messrs. Duncan, Flockhart, and Co., Edinburgh; Dr. J. Don, Steytlerville, Cape Colony; Dr. R. A. Dove, Southsea.

E.—Dr. R. Elsmere, Barton-on-Humber; Dr. R. Erskine, Lond.; Messrs. Evans, Lescher, and Webb, Lond.; E. E.; Messrs. M. Eisenhardt and Co., Lond.

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